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VOL. LXXV.

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THE ARCHITECT

AND

Contract Reporter.

A WEEKLY

ILLUSTRATED JOURNAL

OF

ART,

CIVIL ENGINEERING,

AND

BUILDING.

A principle of vitality and unity will make a Style of Architecture, utility and convenience alone make a Mode of Building. For mere convenience may lead to and suggest forms and artifices, but can never elevate them into an object of taste.—W. WHEWELL.

VOL. LXXV.

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THE
ARCHITECT
AND CONTRACT REPORTER.
A JOURNAL OF ART, CIVIL ENGINEERING & BUILDING.

THE WEEK.

The late Mr. Alexander William Mills, who was head of the firm of Messrs. Mills & Murgatroyd, architects, of Manchester, died in November last in his ninety-second year. He was a very successful architect, and was able to leave property of the gross value of 92,046*l.* Part of the money has been applied for professional and educational purposes. The Manchester Society of Architects will benefit to the extent of 8,000*l.*, of which at least 5,000*l.* is to be set aside to form a permanent source of income, the Royal Institute of British Architects to decide as to the investment and expenditure of this fund if the local council are unable to agree. Such part of his plate and household effects as his trustees shall select will also be given to the Society for furnishing a building with rooms for the use of members and students of the Society, or for ornamental or instructive purposes in any building under their control. A sum of 4,000*l.* is bequeathed to Owens College, Manchester, to form a permanent endowment for the College under the title of the Alexander Mills Endowment Fund, and to be applied (except in the purchase of land) as the trustees are by the charter empowered to apply such funds; 3,000*l.* to the Manchester Royal Infirmary, 3,000*l.* to the Manchester Grammar School, and 500*l.* each will go to several benevolent institutions, including the Architects' Benevolent Society. The testator had bequeathed 10,000*l.* to the mayor, aldermen and citizens of Manchester for an Alexander Mills Art Fund, the income from which was to have been applied in the purchase of works of art for the benefit of the people of Manchester, but this bequest was afterwards revoked.

Maidstone is one of the oldest as well as the most prosperous of Kentish towns. Although it was not until the reign of King John that a residence was found for the Archbishop of Canterbury, the manor was connected with the see from an earlier period. The house which William de Cornhill made over to Archbishop Langton no longer exists, but it is possible the building known as "The Palace" stands on the site of it. In the middle of the fourteenth century a residence was commenced by Archbishop Ufford, but it was not completed until the close of the fifteenth century. The existing building is of a later style, and the front is Elizabethan. There are outbuildings connected with the palace, and among others an ancient gatehouse which, it appears, is to be removed. It has found one advocate for its preservation in Mr. Albert Goodwin, whose paintings of real and imaginary buildings are evidence of his competence to judge architectural works. In the course of a letter to a friend he writes:—"After long absence from my native town I was delighted with the new Mill Street, which opens up a prospect to the old church in (what was to me) a quite unexpected way. But my delight was marred by the information given to me that the picturesque old gatehouse was threatened with demolition. Why? I ask. What has it done? Where is it in the way? Does it not greatly add to the interest (pictorially and historically) of the almost unique group of buildings of which it forms a part? With those who have authority in these matters, I would plead for at least a reprieve. These old buildings are increasingly rare, and, unless the need is absolute, should surely be preserved." After such a testimony from an artist who, like Woollett, the engraver, has added to the renown of Maidstone, the authorities will, it is to be hoped, endeavour to preserve the old structure.

Judges, as a rule, are not favourable to arbitration with laymen as substitutes. It is, therefore, more remarkable to have one of the Scottish "sheriffs" or a county court judge saying:—"This case would have been better and more economically disposed of by being referred to a man of skill. It is deplorable to think that a four days' proof should have been necessary." The circumstances of the case, however, warranted the remark. A builder entered into a contract in 1904 to erect a small dwelling-house, stable, &c., for 384*l.* There were also extras to the extent of 20*l.* 10*s.* 9*d.* On the other hand, deductions were claimed amounting to 20*l.* 10*s.* 3*d.* The sum of 300*l.* had been paid, so that the sum in dispute was only 84*l.* 0*s.* 6*d.*, after extras and deductions were reckoned. Yet so petty a case occupied the Court during four days. No doubt the Scottish weakness for litigation was satisfied, and the parties in the case and their descendants can talk of it with gratification. But it seems absurd that a judge should be compelled to listen to a mass of details which would not be necessary if an expert were trying the case. It may be taken for granted that whenever a litigant or litigants in a building case decline to accept arbitration, there is something in the affair which will not bear the scrutiny of an experienced architect.

The carpenters and joiners and the master-builders of Sydney have submitted a case relating to the hours of working to the Arbitration Board, appointed under the Conciliation and Arbitration Boards Act, a measure which is of great advantage to the building and other trades. After careful consideration the board fixed the working hours from 7.30 A.M. to noon, and from 12.45 P.M. to 5 P.M. for each weekday, and from 7.30 A.M. to 11.45 A.M. on Saturdays. This makes a working week of forty-eight hours. The decision does not satisfy the carpenters and joiners. They desired to avoid working more than eight hours on five weekdays, and half a day on Saturday. The subject has been for a long time in dispute, for while some favour a working week of forty-eight hours, there are others who do not expect to be called on to work during the whole of Saturday. The Arbitration Board have, however, arrived at a reasonable conclusion, and there is a hope in the Colony that it will be accepted, at least temporarily.

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TRURO CATHEDRAL.

See Illustration.

THERE never was a time when so much enthusiasm in regard of building was exhibited as during the Middle Ages. There are sufficient contemporary accounts to enable us to realise the crowds of men and animals taking part in the operations. The wealthy gave money and materials, farmers sometimes supplied bullocks to draw timber and stone to the site, craftsmen offered their labour gratuitously. In spite of such assistance the erection of cathedrals in England and abroad occupied many years. When additions had to be made the original style had become antiquated. A modern contractor would be likely to explain the phenomenon by saying that the organisation was defective and that the over-numerous men interfered with one another.

That theory becomes more plausible when we consider the history of Truro Cathedral. In 1878, *i.e.* two years after the formation of the see, John Loughborough Pearson was selected by the committee as the architect for the new building. The works were commenced in 1880, and in 1887 services were held in the choir. A comparison between Mr. Pearson's original design and the building as it appears at present will suggest how much has been accomplished in a quarter of a century. There are economists who condemn the modern contract system, but Truro shows that work can be accomplished under it in the most expeditious manner.

The architect deserved to be entrusted with so important a work. He had rendered himself competent by constant study and practice. A native of Durham, he was in his sixty-first year when the great opportunity was offered him. He was articled in his fourteenth year, and he served as an assistant in Hardwicke's office. When he was twenty-four he was architect for a church in Yorkshire, and he was known by his London works from 1848. Mr. Pearson was not a mere head of an office for the production of designs. Nor did he make diplomacy serve for invention. In such churches as St. Peter's, Vauxhall, St. Augustine's, Kilburn, St. John's, Red Lion Square, and St. Stephen's, Bournemouth, we see a different treatment in each case, and we believe he never allowed an old design to serve even for a part of another building. He also restored churches, and it was inevitable that objections should be raised to his treatment. But he was conservative in disposition, and the manner in which he has worked in the parish church of St. Mary to form part of the cathedral is enough to suggest his caution and respect for whatever was ancient.

The qualities which Dr. Benson, who was the first Bishop of Truro, found in the design were grace, religiousness and simplicity. Among the cathedrals which Mr. Pearson had under his charge was Lincoln, and the Early English of that building was deemed to be adapted for adoption in the new cathedral. The question of funds had to be considered, and it would have been unwise to have a more ornamental style and then to discover the building could be only partially used. The site, too, was not desirable. But as the committee had to deal with people on the same lines as if they were seeking ground for a new railway station, no better site could be found for the money at their disposal. The visitor who is accustomed to the positions occupied by the majority of English and foreign cathedrals generally expresses surprise on seeing Truro for the first time after passing through a mean environment. The newness of the masonry also appears to be a drawback to those who believe, they know not how or why, that for a building to be a cathedral it must be ancient. Truro will, of course, in time assume the characteristics of age.

Mr. Pearson believed that according to the English arrangement there should be a central and two western towers with spires. The whole of the space has been used for the building. The choir, which was the first part erected, is 115 feet in length, the nave being 136 feet. If the crossing be included the total length is 300 feet. The nave is 32 feet in width and each aisle 14 feet. The height to the ridge of the stone vault is 70 feet, and is continuous through nave and choir. The transept measures 110 feet from north to south. There is no lady chapel.

Mr. J. W. Borland, to whom we are indebted for photographs of the building, which were taken after careful inspection, supplies the following notes on Truro Cathedral as a subject for illustration :—

"From the points of view of the Churchman, the Cornishman and the architectural student, the *chef-d'œuvre* of the late Mr. J. L. Pearson, R.A., must be pronounced a great and striking success.

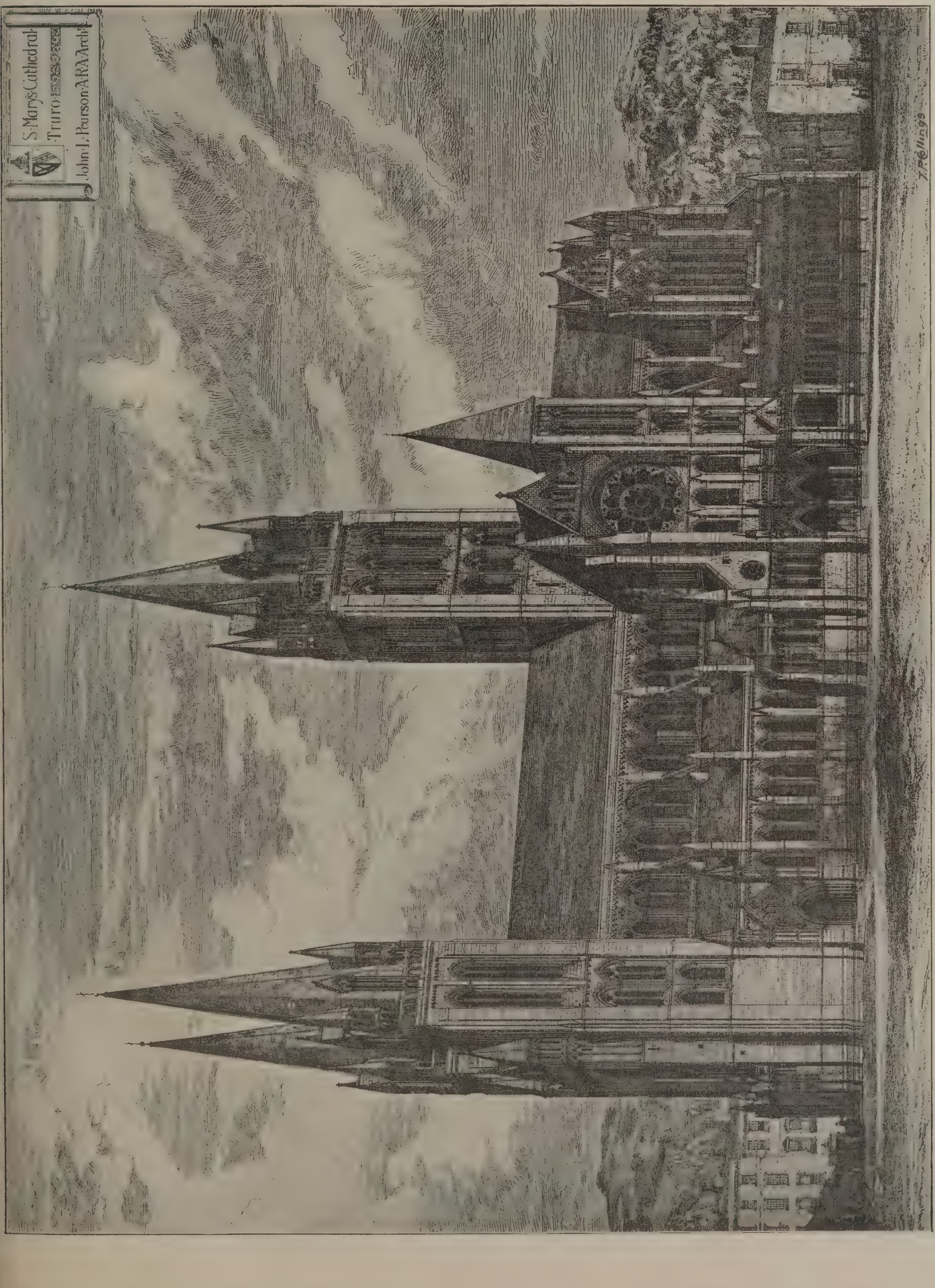
"To the first-named it means that the Church in Cornwall is no longer dependent for episcopal direction upon the far-off see of Exeter, as was the case from the Reformation until 1877, but that it now possesses both a bishopric and a cathedral, which form a centre for the revived activities of the National Church in the far west of our isle. To the second, even if not a Churchman, we venture to say that the cathedral is a source of pride, as showing what Cornishmen, headed by their Royal duke, His present gracious Majesty, were able to accomplish during, roughly speaking, the last quarter of the nineteenth century, and as providing a fitting place for the memorials of those sons of the Duchy whose deeds deservedly live in our island story. To the architectural student Truro is equally a source of gratification, as proving that in our own times it has been found possible to raise a cathedral worthy to be compared with many of its ancient sisters, and which all who visit it must admit to be really of cathedral rank and not merely a glorified parish church.

"It is a somewhat humiliating thought that while many a splendid ecclesiastical edifice in our land has been allowed to decay altogether since the Tudor break with Rome, and that most of the others have 'suffered many things of many physicians,' with the result that in many instances their state has become 'no better but rather worse,' the Anglican Church had not up to 1877 undertaken a single new cathedral with the exception of St. Paul's, which after all was merely a rebuilding. The only excuse is the fact that the pre-Reformation Church had, to its lasting credit, so amply supplied the needs of the country as to make only few additional cathedrals necessary. Truro, however (shortly to be followed by Liverpool), stands as an evidence of what modern Churchmen, architects and builders can accomplish, and proves that in the present day it is possible to erect a worthy successor to the great cathedral churches of Mediæval times.

"To the amateur photographer, however, who is anxious to secure good exterior views, Truro presents serious difficulties, owing to its having been wedged in as it were in the midst of closely packed and somewhat mean buildings, and placed on the site of a comparatively small parish church. Hence only glimpses of some portions of the exterior are at present obtainable, which in their picturesqueness rather recall some of the great continental churches than one of the typical English cathedrals with spacious close, round which at a respectful distance the characteristic cathedral city has grown up in the course of ages. Ecclesiastically it is no doubt an advantage to be so closely in touch with the city, and the architect of Truro is to be congratulated on having made the best of a cramped site. The unfortunate photographer, however, walks round and round, taking advantage of every bit of rising ground and open space, but finally discovers that certain aspects which he fain would record must be left unrecorded.

"The usual week-day entrance is by the south porch—a fine piece of work, which leads into the south transept, to the west of which stands the magnificent baptistery—a memorial to the famous missionary, Henry Martyn, born at Truro in 1781. This unusual position of the baptistery is explained by the fact that the choir, transepts and baptistery were finished in 1887, when the authorities hardly dared to hope to complete the cathedral within the next generation; and thus, in the building as it then stood, the baptistery occupied a normal position. The death, however, in 1896, of the Archbishop of Canterbury, Dr. Benson, who had been the first Bishop of Truro, gave an impetus to the erection of the nave as a memorial to him, and enabled it to be opened in 1903. Since then the very fine Victoria (central) tower and spire have been completed, being dedicated in January 1904, on the third anniversary of Queen Victoria's death; and thus, with the exception of some comparatively minor features, the cathedral is now practically finished.

"Entering, as we said, by the south door, and advancing towards the centre under the tower, the visitor has on his left hand a view of the nave, splendid in its faultless simplicity, and terminated by the fine west



gallery, from whence the best full-length view is obtained. On his right hand is the more elaborate choir leading up to the magnificent reredos, which, with its beautiful setting forth of the Great Sacrifice and its types, very properly forms the chief glory of the sacred edifice.

"Perhaps next to the reredos and the baptistery the feature of the interior which calls forth the greatest admiration is the remarkably clever manner in which the architect blended the south aisle of the old parish church of St. Mary with his cathedral, of which it now forms the south choir aisle, though still possessing all the rights and privileges of a separate parish church. In a new building like Truro, whose very faultless regularity is naturally less attractive to the architectural student with an antiquarian bias than the mixture of styles seen in most of our older cathedrals, this link with the past is peculiarly interesting.

"As the difficulty of photographing this cathedral has been touched upon, it is only fair to acknowledge with thanks the courtesy shown to a humble amateur by Mr. E. C. Argall, photographer, of High Cross, Truro, who readily granted the use of his dark room, &c., and in other ways was most helpful." J. W. Borland.

HOUSEHOLDERS AND NOISY TRADES.

By W. S. Holdsworth, D.C.L., &c.

The question how far a man's liberty to carry on his business is limited by the rights of his neighbours to be free from disturbances which injuriously affect their physical comfort or the enjoyment of their property is a question which is constantly recurring. "So use your property that it does no harm to your neighbour" runs one maxim. "A man can do as he likes with his own" runs another. The law must lay down rules to decide which of the two competing views represented by these maxims will be applied to the facts of the various concrete cases arising for decision. The principles which the law applies are fairly well ascertained. To constitute a nuisance there must be a serious interference with the physical comfort of the plaintiff, or material injury to his property. What will be considered to be such a serious interference must depend to a large extent upon the character of the locality in which the acts complained of take place. "A dweller in towns," it has been said, "cannot expect to have as pure air, as free from smoke, smell and noise, as if he had lived in the country." A person who goes to live in Whitechapel cannot expect the same amenities as a person who lives in Park Lane. On the other hand, the mere fact that a man has gone to live near a factory will not prevent him from complaining of the nuisance caused by the factory. It is no defence to say that a man has come to the nuisance. Again, to be actionable the discomfort must be a sensible present discomfort. The mere fact that there is a chance that the defendant's acts may result in a nuisance will give no right of action. "It would have been wrong," it was said in a well-known case, "in the reign of Henry VI. to have interfered with the further use of sea coal in London, because it had been ascertained or predicted that by the reign of Queen Victoria both white and red roses would have ceased to bloom in the Temple Gardens. If some picturesque haven opens its arms to invite the commerce of the world, it is not for this Court to forbid the entrance, although the fruit of it should be the sights, and sounds, and smells of a common seaport and shipbuilding town, which would drive the Dryads and their masters from their ancient solitudes."

Difficulty begins when it is attempted to apply these principles to the facts of concrete cases. When, taking into consideration the character of the locality, the line must be drawn between acts which do and acts which do not constitute a nuisance. The case of Rushmer *v.* Polsue & Alfieri, Ltd., which came before the Court of Appeal last December, is a very good illustration of a case which stands upon the border line. The plaintiff was a dairyman who resided at 8 Gough Square, Fleet Street. The defendants carried on printing works in the adjoining house, 10 Wine Office Court. They had recently set up printing machinery in their premises which, as the plaintiff alleged, caused an intolerable nuisance to himself and his family. The defendants denied that their machinery caused any nuisance, and said further, that since the house was situated in a district devoted to the printing trades, their acts done in that locality in the regular exercise of their trade could not constitute a nuisance. Warrington, J., on the evidence, found that even in that locality the printing machinery as run by the defendants constituted a nuisance, and issued an injunction against its further use. The Court of Appeal have declined to interfere with this decision; but the judgment of Vaughan Williams, L.J., leads us to doubt whether it is entirely satisfactory. It was conceded that there was a printing establishment opposite which worked sometimes at night, while not far off were the printing works of the *Daily Telegraph*. It would be inconsistent with established principles, as the learned Lord Justice said, to hold that a nuisance was constituted by the fact that printing work carried on at night caused a serious disturbance to the plaintiff, seeing that such work was carried on in a locality devoted to this particular trade, and was carried on in the usual way. "Nor do I think," he said, "that the fact that the noise of defendant's printing machine was a substantial addition to pre-existing noises would amount to a legal nuisance, if such noise was only the result of carrying on the trade in the district devoted to that trade according to the particular and established manner." But he said that Warrington's, J., decision might have been based on the fact that the noise caused by the defendant was in excess of that which would have arisen from the proper and established way of carrying on the trade, and though he personally should not on the evidence have come to that conclusion, he did not think that he ought to interfere with the actual decision of the learned judge who had tried the case and seen the witnesses. This view was also taken by Stirling and Cozens-Hardy, L.J.J. They treated the case as a case of an act in excess of what the defendant had the right to do even in that locality. "It does not follow," said Cozens-Hardy, L.J., "that because I live in the manufacturing part of Sheffield I cannot complain if a steam-hammer is introduced next door, and so worked as to render sleep at night almost impossible, although previously to its introduction my home was a reasonably comfortable abode, having regard to the local standard."

If a particular district is devoted to a particular trade it is a serious thing to throw any impediments in the way of the proper and legitimate development of that trade, not only from the point of view of those actually engaged in it, but also from the point of view of those who live by supplying to those who are thus occupied the things necessary for carrying on that trade. If it is proved that a particular district is thus occupied with a particular kind of trade, we think that there should be very clear proof that a defendant engaged in such trade has been carrying it on in an unusual manner, before the acts done in that trade are held to constitute an actionable nuisance. If every addition to the number of such traders in such districts is to expose the new-comer to the danger of an action it may be a serious matter for the trade of the district, and, indeed, for the trade of the kingdom; for if a trader cannot carry on his trade in a district devoted to that trade without creating an actionable nuisance *à fortiori* he cannot carry it on anywhere else. It is not possible to measure accurately the amount of printing noise legitimate in a printing district, any more than it is possible to measure accurately the amount of light to which a plaintiff is entitled. The House of Lords in the case of COLLS *v.* The Home and Colonial Stores put a stop to such attempts at accurate measurement in the case of the right to light, and decided that it was only a substantial deprivation—a deprivation which amounted to a nuisance—which was actionable. We believe that the case on which we have been commenting is to be taken to the House of Lords. No doubt this view will be presented to their lordships. We hope, in the interests of all traders, that it will be duly emphasised by them as it was in the case of COLLS.

ARCHITECTURE IN 1905.

THE depression from which architecture and the building trade have suffered now for some years in 1905 reached a more poignant depth than even the low level it had reached before. This has been conclusively proved not only by the reports of practising architects, but by the more reliable signs of the returns of unemployed members of the trades unions, which month by month have, with wearisome reiteration, reported almost without exception that the proportion of unemployed was greater than for the corresponding period twelve months previously. This evidence is still further supported by the figures for the number of bankruptcies during the past year, which in the building and timber trades has increased from 628 in 1904 to 645 in 1905, the total number of bankruptcies in the United Kingdom being, for the whole country, the record for eighteen years. Not only the labour returns, but the business in prominent materials, tells the same story. The timber-exporting ports of Northern Europe universally report bad trade with England during the year. The great brickmaking district of Fletton has been in a state of stagnation appalling in its intensity. There, in the early part of the year, the " spot " price had fallen from 30*s.* to 12*s.* per 1,000, and many millions of bricks were in stock. The price of these bricks delivered in London has been dropping still further during the year, and at the present time is lower than it has been for many a long day.

There is, however, a gleam of hope for the future in the reports of improving trade in other departments of manufacture which have been made during the past few months, and there are signs of a gradual improvement in the conditions of the building and allied trades which are encouraging.

Not only in the matter of activity has the past year been a dull one for architects, but their position in the eyes of the law has been distinctly lowered by the judgment of the Court of Appeal in the case of

GIBBON *v.* PEASE,

in which it has been held that the decision in EBDY *v.* MCGOWAN applies to instances in which drawings have been prepared for executed buildings as well as to those in which the buildings have not been erected. So that, in effect, the law says that an architect is a man who makes drawings, not a man who designs buildings, and, being paid for his work as a draughtsman, must give up to his employer the drawings that he is paid for producing.

Nor in the domain of

ARCHITECTURAL POLITICS

can the record of 1905 be deemed a satisfactory one. Although we hold that registration or the enrolment of properly-qualified architects, call it what you will, would make for the better education of architects and a higher ethical standard of professional practice, and would benefit both the art of architecture and the position of architects, we are fully cognisant that registration is undesirable and can never become a reality unless the majority of architects, and still more the majority of the members of the Royal Institute as the representative body of the profession are in favour of the principle.

The Council election of 1904 led us and many others to believe that the majority of members of the Royal Institute was in favour of registration. What are we to make of the election in 1905? Does the complete reversal of the preceding verdict mean that the majority have changed their opinion on more mature thought, or does it mean that, as in our national politics, there is a considerable body of voters, sufficient to tip the balance, who can be swayed first in one direction and then in another by clever electioneering tactics? It would almost seem so, for undoubtedly both in 1904 and 1905 the winning party displayed better generalship in the election than the losers.

Electioneering, however, does not lead to progress but to vacillation and uncertainty, and until the bulk of the members of the Institute and of the profession are sufficiently firm and tenacious in their opinions to give unwavering support to one or other of the opposed parties there can be no hope of betterment for the art of architecture or the estimation of architects by the general public.

Both parties have made an advance during the past year towards their respective ideals.

The advocates of registration whilst in a majority on the Institute Council drew up a draft Bill for the enrolment of architects, and published the text of the Bill in the Institute Journal. They showed a lack of electioneering skill by deferring the publication until after their defeat in the Council election, for they should have encouraged their supporters and justified their re-election by producing the result of their labours before the election.

The opponents of registration followed up the tactical advantage obtained by packing the Board of Architectural Education with their own adherents, and bringing forward with a considerable flourish of trumpets their scheme of architectural education, with Mr. REGINALD BLOMFIELD, the newly-elected A.R.A., as their spokesman. The Board cannot be congratulated on the originality of their scheme, as it is no more than an adoption of the system established years ago at the Architectural Association under the leadership principally of Mr. LEONARD STOKES and Mr. SETH-SMITH, with the advice of the late Mr. ARTHUR CATES and the assistance of many hard workers who, as secretaries of committees, have done the donkey work, but have been ignored by the Board. The system brought into working existence by the Architectural Association has formed the model on which educational methods have been based by University College and King's College, London, by the universities of Manchester and Liverpool, and by many other bodies throughout the kingdom as far as local opportunities and requirements would allow.

The anti-registrationists have also during the past year made an advance toward what both they and we must recognise as the only ultimately successful means of avoiding registration, viz., the elevation of the Royal Institute in the eyes of architects and their employers to the position occupied in the estimation of engineers and the public by the Institution of Civil Engineers. We candidly admit that if the Royal Institute occupied in the architectural profession an equivalent position to that of the Institution of Civil Engineers, there would be no necessity for registration.

Doubtless this is recognised by the more far-seeing of those opposed to registration, and in the advancement towards this ideal the leaders of the anti-registrationists have induced a number of prominent outsiders to allow themselves to be proposed for membership of the Royal Institute with a view to their election at the first business meeting of the new year.

Another great step towards this objective is the attempt that has been made to procure the absorption of the Society of Architects by the Royal Institute, an attempt that has not yet been brought to successful fruition, but of which the present year may possibly see the accomplishment. If the opponents of registration are able to attain this end and to maintain their position at the next Council election, they may feel justified in regarding the question of registration as relegated to obscurity, if not to the Greek kalends.

The subject of competitions has engaged attention at the Royal Institute, and a revised set of regulations for their conduct has been adopted, of which the most important improvement is the recognition of the desirability of three assessors "in the case of works of considerable magnitude." This is a step towards the adoption in England of the jury system, practically universal on the Continent.

There has been heard amongst the rank and file of members of the Royal Institute a certain rumbling of discontent at the tenor of the advice given by the Institute to promoters of competitions. It must be admitted that the personal opinions of the President for the time being tincture the nature of that advice to an extent that prevents the consistency which the public and the profession have a right to expect when promoters seek the guidance of the representative body of architects. It is clear, for instance, that the opinions of Sir Aston Webb and Mr. Belcher do not coincide as to the desirable form of architectural competition for buildings of importance. When the influence of the former prevails the form becomes that of a double-barrelled competition, open in the first place to all comers, from whom are selected a limited number for the final essay, whilst the leaning of the present President is towards a limited competition of architects selected by himself.

As the *raison d'être* of architectural competitions rests upon two points—the production of the best design and the discovery of latent talent—there can be no doubt that the method favoured by Sir Aston Webb is preferable. The objection that many architects of high artistic reputation will not enter an open competition is negatived by the practically universal result that these architects do not win in a limited competition when pitted against a successful contestant in the open arena. It is beyond question that Mr. Belcher's method induces suspicion of favouritism and entirely denies an opportunity to latent ability.

The general dulness of trade, accentuated as regards building by the pause induced in municipal activity by the stringency of money and the diminution of credit, has prevented any great activity in

Competitions.

The most important event decided during the past year—at least from the point of view of magnitude—was the limited competition for the new buildings of King's College Hospital, for which Mr. W. A. Pite was successful and whose designs will necessitate the expenditure of some 400,000*l.*

A more generally interesting struggle was the final stage of the double-barrelled competition for the new central home at Westminster of the Wesleyan Methodist Connexion. For this competition Sir Aston Webb was the assessor, and from the nine very admirable designs submitted he selected that of Messrs. Lanchester & Rickards for first place, from which, there is no doubt, a very fine and effective building will be erected, at a cost of about 140,000*l.*

The other competitors in the final round were Messrs. Mallows & Cross, Mr. J. S. Gibson, Mr. Flockhart, Mr. Vincent Harris, Mr. J. A. Swan, Messrs. Waddington, Son & Dunkerley, Messrs. Cheston & Perkin and Messrs. Crouch, Butler & Savage.

The limited competition for new buildings for University College, London, to be erected at Hampstead, resulted in favour of Mr. A. B. Mitchell, the other competitors being Mr. H. T. Hare, Mr. Paul Waterhouse, Professor Simpson and Mr. Chatfeild Clarke. For three public libraries at Belfast the designs of Messrs. Graeme-Watt & Tulloch were selected.

Amongst the few competitions of importance decided during the year was that for new offices for the Seacombe and Wallasey District Council, in which Sir William Emerson, the assessor, awarded the first premium to Messrs. Briggs & Wolstenholme and Mr. A. Thorneley, the second to Messrs. A. R. Jemmett & G. T. McCombie, and the third to Mr. W. H. Ashford. For new schools at Taunton the designs of Messrs. Dare Bryan & Roberts were placed first, those of Messrs. Samson & Cottam second, and those of Messrs. Hans Price & Jane third.

In the competition for several schools for the Bucks County education committee, the assessor, Mr. T. W. Cutler, awarded the premiums for the new elementary school, Aylesbury, first, Messrs. J. M. & H. Kennard; second divided between Mr. A. Hendy and Messrs. Cash & Hack. For the elementary school, Wolverton, the awards were:—First, Messrs. Harrington, Ley & Kerkham; second, Mr. F. T. Baggallay; whilst for the new secondary school, Wolverton, the designs of Messrs. Harrington, Ley & Kerkham were again placed first and those of Mr. G. Sedger second.

In a limited competition for the Davies memorial laboratories at Aberystwith for the University College of Wales the designs of Mr. A. W. S. Cross were selected.

The important and well-contested competition for new municipal buildings, Lambeth, was decided by Mr. H. T. Hare, the assessor, in favour of Messrs. Warwick & Hall, first; Mr. H. P. Burke-Downing, second; and Messrs. Crouch, Butler & Savage, third.

A limited competition for public baths and wash-houses at Hammersmith resulted in favour of Mr. J. E. Franck.

For the central public library of Islington the designs of Mr. H. T. Hare were successful in a limited competition. Mr. Belcher, the president of the Royal Institute, was not only the assessor, but selected the competitors, and the result of the competition was a foregone conclusion when the names of the competitors appeared, the list being made up, with one or two exceptions, of architects who have obtained a reputation for artistic ability unaccompanied by success in competition design.

For the new Mitchell Library, North Street, Glasgow, the designs of Mr. W. B. Whitie were selected by the assessors, Mr. A. B. McDonald, Mr. John Keppie and Mr. F. T. Barrett. In the same competition the second place, with a premium of 100*l.*, was awarded to Mr. John Arthur; the third place and premium of 75*l.* to Mr. S. K. Greenslade, and the fourth place and premium of 50*l.* to Mr. J. R. Rhind.

Simply as an illustration of the want of employment by architects at present may be mentioned the competition for a new technical institute at Rochester, a building to cost 8,000*l.*, for which 131 designs were submitted. The first premiated design was by Messrs. Russell & Cooper, the second by Messrs. Crouch, Butler & Savage, and the third by Mr. W. H. Knowles, Mr. F. T. Baggallay being the assessor.

A fine design by Messrs. Nicholson & Corlette was selected by Mr. G. H. Fellowes Prynne as the best in a limited competition for a new church at Epsom.

A remarkable result attended the open competition for a new public library at Hove, when, although over seventy designs were sent in, the assessor, Mr. Belcher, declared that none had complied with the conditions and that none was deserving of a premium. Needless to say, this dictum was received by competitors with a storm of disapproval and incredulity. We are glad to note that the best solution of the matter has been adopted, the authors of ten of the best designs having been invited to enter a limited competition. Let us hope that the conditions may be practicable and the necessity for essential or literal compliance made clear.

Important Buildings Commenced.

In addition to those which we have noted as forming the subject of competitions, the buildings of importance commenced during the past year include :—New Council Offices, Woodford, Essex, costing over 19,000*l.*, of which Mr. Arthur C. Blomfield is the architect ; a new Hydro at Peebles in replacement of that destroyed by fire, and to be carried out from the designs of Mr. James Miller at a cost of 37,000*l.* ; new Post Office Buildings on the site of Christ's Hospital, for which the foundation-stone was laid by the King on October 16 ; new County Asylum for Surrey, commenced at Merstham from the plans of Mr. G. T. Hine, and expected to accommodate 1,200 patients. A new theatre in Aberdeen has been commenced from the plans of Messrs. Frank Matcham & Co., and a new theatre in Edinburgh to cost 70,000*l.*, from the designs of Messrs. J. D. Swanston & Syme.

Notable Buildings Completed.

Amongst the interesting buildings completed during the past year is the "restoration" of No. 17 Fleet Street, erroneously called sometimes the "Palace of Henry VIII. and Cardinal Wolsey."

The continual growth of the suburbs of our towns in general, and of the Metropolis in particular, creates an ever-increasing need for hospitals, asylums and workhouses, and the Acton Urban District Council, in pursuance of the provision of an isolation hospital for their district, have completed the first portion at a cost of 13,000*l.* from the plans of their surveyor, Mr. D. J. Ebbetts.

In Glasgow an extensive out-patients' department, with seating accommodation in the waiting-hall for 400 patients, has been added to the Glasgow Western Infirmary, from the designs of Mr. J. J. Burnet, A.R.S.A. A large out-patients' department has also been added to the Leicester Infirmary, of which Messrs. Everard & Pick were the architects. An interesting addition to Cardiff Infirmary has been completed in the form of a new pavilion for electrical treatment, an illustration of the continually enlarging sphere of knowledge which the calling of an architect must embrace, and which must have entailed special study on the part of the architect, Mr. Edwin Seward. A new workmen's hotel at Birmingham on the lines of the Rowton Houses in London has been completed from the designs of Mr. H. B. Measures at a cost of 62,000*l.* Another of the houses was recently opened in Camden Town. The Central Public Library of Hammersmith has been completed from the designs of Mr. H. T. Hare, selected in limited competition. For the Manchester Hospital for Consumption has been completed the Crossley Sanatorium for Consumptives in Delamere Forest, which has been erected at a cost of over 70,000*l.* from the designs of Mr. W. Cecil Hardisty. A somewhat similar institution is the country branch of the Mount Vernon Hospital, Hampstead, which has been erected at Northwood, Middlesex, as a hospital for consumptives, from the designs of Mr. Frederick Wheeler, selected in limited competition.

The North British Station Hotel, Glasgow, has been completed after reconstruction from the plans of Messrs. Baird & Thomson. A new lunatic asylum for 1,200 patients has been opened at Napsbury, St. Albans, on its completion under the superintendence of Mr. Rowland Plumbe. The West Cornwall dispensary and Infirmary at Penzance has been completed from the designs of Mr. Oliver Caldwell. The Queen's Hall, Hull, a mission building and Sunday school for the Wesleyans, has been opened after erection from the designs of Messrs. Gelder & Kitchen at a cost of about 23,000*l.* A new hospital for women at Sparkhill, Birmingham, has been completed at a cost of 45,000*l.*, from the plans of Messrs. Martin & Martin. The new town hall and Council house at Walsall, erected from the designs of Mr. J. S. Gibson at a cost of 101,000*l.*, has been completed and opened. The new South Shields municipal buildings have been finished from plans prepared by Mr. Ernest E. Fetch, which were selected in competition ; the cost of the work has been 48,000*l.* The new workhouse infirmary, North Evington, Leicester, has been completed at a cost of over 100,000*l.*, from the plans of Messrs. A. Gough & Trollope. A remarkable addition to the street architecture of London, completed during the past year, is the new block of premises erected in Oxford Street for Messrs. Waring & Gillow, from the designs of Mr. R. F. Atkinson. New municipal buildings at Tottenham have been opened after erection from the designs of Messrs. Tayler & Jemmett, selected in competition. Ingram House, Stockwell, with accommodation for 208 residents besides staff, has been completed and opened, the architect being Mr. A. F. Bolton. A new isolation hospital at Rotherham has been erected from the designs of Mr. Joseph Platts, and finished at a cost of 19,285*l.* A similar hospital for Harrogate has also been completed at Knaresborough at a cost of 25,000*l.*, from the designs of the late Mr. G. H. Stanger, the works being carried out under the supervision of that architect's partner, Mr. A. W. Worrall. The Gaiety Hotel and Restaurant, from the designs of Messrs. Ernest Rüntz & Ford, is another notable addition to London street architecture, on which we may congratulate ourselves as a worthy example of modern English architectural design. The new municipal buildings at Deptford have been finished from the designs of Messrs. Lanchester & Rickards, selected in open competition. The new premises for Coutts's Bank, on the site of the old Lowther Arcade in the Strand, London, of which Mr. J. Macvicar Anderson is the architect, have been completed and opened for business during the past year.

Ecclesiastical Buildings.

The ecclesiastical buildings completed during the year include the new church of the Good Shepherd, Rochdale, designed by Mr. E. H. Lingen Barker ; the church of St. Cuthbert, Fir Vale, Sheffield, of which Messrs. Webster are the architects ; the restoration of Holy Trinity Church, Micklegate, York, from the plans of Mr. C. Hodgson Fowler ; the restoration of St. Bartholomew's Church, Elvaston, from the designs of Mr. G. F. Bodley, R.A. ; the new church of St. John, Kirkby Woodhouse, of which Mr. Louis Ambler is the architect ; St. Hilda's Church, West Jesmond, designed by Messrs. Hicks & Charlewood ; All Saints Church, Grimsby, by Messrs. J. E. K. & J. P. Cutts ; the restoration of Finghall Church, Yorkshire, under Mr. Brierley ; Holy Trinity Church, Derby, of which Mr. C. E. Hewitt was the architect ; Holy Trinity Church, Fernilee, near Buxton, designed by Messrs. Currey & Thompson ; St. Nathaniel, Liverpool, from the plans of Messrs. George Bradbury & Sons ; All Saints Church, Ealing, designed by Mr. W. A. Pite ; All Saints Church, Hertford, erected at a cost of 28,000*l.* from the designs of Messrs. Paley, Austin & Paley.

Cathedrals.

During the past year it has been the lot of Winchester Cathedral to fill the public eye as in urgent need of preservation by immediate repair. As in the case of Canterbury and other cathedrals the mischief is not newly commenced or suddenly inflicted, but has been gradually approaching for years, indeed, one might say for centuries, to the point of imminent danger. Briefly, the underground streams which permeate the lower part of the city of Winchester, until it is as honeycombed as a rabbit warren, have removed the soil on which the Mediæval masonry was planted, so that buttresses hang on to walls instead of supporting them, and walls bridge crevasses instead of standing on solid foundations. Within the last few weeks the continual shedding of fragments from the west front which has gone on for some time past has become acute to danger point, so that the western entrances are now closed and a hoarding is necessary to prevent the bombardment of passers-by with falling fragments. The further restoration of Chichester Cathedral is being taken in hand, though the estimated cost, 5,000*l.*, is moderate compared to the 20,000*l.* that is needed for Winchester.

The cathedral of Iona has been reopened after partial restoration at the hands of Dr. Honeyman, and the restoration of the cathedral of the Holy and Undivided Trinity, Downpatrick, has been carried out under the supervision of Mr. W. Sampson Jervois. The extension of Wakefield Cathedral, commenced from the designs of the late Mr. J. L. Pearson, R.A., has been completed under the direction of his son, Mr. F. L. Pearson.

The new cathedral at Berlin, which has been for several years in course of construction from the designs of Professor J. C. Raschdorf and his son, Professor Otto Raschdorf, was consecrated in February last.

Exhibitions.

During the past year the biennial Building Trades Exhibition was held in the Agricultural Hall, London, and gained the success which the energy and tact of Mr. Greville Montgomery have now led us to expect as its invariable accompaniment. Later in the year an interesting and instructive Electrical Exhibition was held at Olympia, but the show that seemed to most catch the fancy was the exhibition of cheap cottages at the Garden City, Letchworth. The avowed object of this exhibition was to prove the possibility of erecting a farm labourer's cottage complete for 150*l.* The result was, however, to prove the impossibility of this save in exceptional circumstances, chief amongst which are that the landlord who builds must have sufficient knowledge and give sufficient time to enable him to save architect's fees and builder's profit, and must be able to utilise local unskilled labour and materials on the spot. Several cottages were, no doubt, built for the limited sum of 150*l.*, but excluding several little items, such as builder's profit, cartage, water supply, and so on, which in the usual way would run into another 50*l.* or 100*l.* There were several artistic cottages which were not suitable for the agricultural labourer, and which no one would suppose could be built for 150*l.* There were likewise several cheap cottages, which were also nasty, and others of an ephemeral nature that is scarcely commensurate with a 4 per cent. security.

London County Council.

The governing body of the Metropolis has scored a success in the opening of the fine thoroughfare of Aldwych and Kingsway, though the ratepayers have still some time to wait before any substantial recoupment can occur.

The Council have been only moderately successful with their Parliamentary campaign, the London Building Acts Amendment Act being very much reduced from the Bill as introduced. The Act as passed is, however, quite a sufficiently serious matter for property owners in London, as may be gathered from the fact that the Council have already deemed it necessary to indulge in the favourite pastime of municipal authorities, the formation of a separate department for the working of the Act, with a salary list, for the present, of 50*l.* a week for additional assistants.

A site has been found and provisionally adopted for the new County Hall on the Surrey bank of the Thames, adjacent to Westminster Bridge.

Charing Cross Station.

The fall of part of the roof of Charing Cross station has opened the eyes of the public to a fact that has been patent to architects for many a year, that the life of iron construction, protected only more or less by paint, is but brief, and that nothing short of unceasing vigilance and timely renewal will insure the safety of the public against the destructive agencies of corrosion and fatigue of material. We cannot be too thankful that the lesson has been so impressively taught at such a small cost of life and limb, serious enough as this has been to the unfortunate victims of the disaster.

The Law of Ancient Lights.

The importance of the decision in the celebrated case of Colls *v.* Home and Colonial Stores, Ltd., as determining the basis of the legal right to ancient light, has received exemplification in the case of Ambler *v.* Gordon, decided by Mr. Justice Bray, and in the case of Raphael *v.* Buck & Hickman which came before Mr. Justice Warrington.

Honours.

The honours granted during the past year to representatives of the art of architecture included the election of Mr. Reginald Blomfield as A.R.A.; the appointment of Sir C. Purdon Clarke, C.I.E., to the presidency of the Metropolitan Museum in New York, the national museum of America; the award of the royal gold medal to Sir Aston Wfbb, R.A.

One of the most interesting events of the year was the memorable gathering of pupils, colleagues and friends of Mr. R. Phenè Spiers, in testimony of the appreciation universally felt for the great services rendered to architects and architecture by Mr. Spiers in his educational and literary work.

Obituary.

The losses from the ranks of the architectural profession during the year have been more than usually heavy, and include the following: Mr. A. E. Perkins, Mr. J. T. Wimperis, Mr. A. C. Wissenden, Mr. W. Goldsworth, Mr. G. H. Stanger, Mr. Thomas Blashill, Mr. W. Aston, Mr. J. Leaning, Mr. J. Thomson, Mr. J. Barnet, Mr. Cuthbert Brodrick, Mr. G. Fowler Jones, Mr. J. B. Arding, Mr. C. Pertwee, Mr. E. H. Pritchett, Mr. S. J. Nicholl, Mr. F. S. Waller, Mr. T. D. Barry, Mr. G. Henderson, Mr. Frank Caws, Mr. W. G. Scott, Mr. J. Tweedale, Mr. W. Drew, Mr. R. P. Whellock, Mr. W. H. Dunn, Mr. Joseph Wood, Mr. C. H. Howell, Mr. C. A. Buckler, Mr. C. Forster Hayward, Mr. Alfred Waterhouse, R.A., Mr. J. Weir, Mr. J. K. Colling, Mr. C. G. Maylard, Mr. T. E. Knightley, Mr. Brightwen Binyon, Mr. G. H. Luff, Mr. J. Melvin, Mr. J. G. Waller, Mr. O. F. Stenning, Mr. Helier Harrison, Mr. W. H. Chaney, Mr. J. Bowden, Mr. A. W. Mills, Mr. J. Weller, Mr. John Eaton, C.B., Mr. H. H. Collins, Mr. J. J. O'Callaghan, Mr. W. Moss Settle.

THE ACADEMY WINTER EXHIBITION.

William HOGARTH was, we suppose, a dreamer, like other artists; but he could never have anticipated a time when his name would appear for the first and second entries in a catalogue of an exhibition at the Royal Academy. He died before that institution was established; but he was aware of the project and was opposed to it. There is fitness in having so essentially English a painter brought before the eyes of the visitor on entering the first room, for this year's exhibition, with very few exceptions, is devoted to the works of English painters. Hogarth's portraits are indicative of its character, for out of 107 works in the three rooms sixty-two are portraits. The collection suggests, like others of recent years, that it was not carried out on a definite plan, and the arrangement of the pictures is rather confusing. Indeed, chance appears to have had much to do with the contents of the exhibition. But when it is found that the artists range from William Dobson, who worked in the seventeenth century, down to the unhappy Simeon Solomon, who died not many weeks ago, it will be evident that we have varied materials for tracing the progress of the English school. There are, of course, gaps, arising no doubt from the absence of an initiatory idea; but taking the works as they are, they comprise many which are both creditable and interesting.

Dobson, who succeeded Vandyke as sergeant-painter to Charles I., probably painted the king more than once. The half-length portrait which is in the exhibition will be taken at first glance by visitors who do not consult the catalogue as a work by Vandyke. With such a subject as the king there must be similarity between his portraits. But Dobson suggests a nervousness which is absent in all the king's portraits by Vandyke we have seen. Dobson introduces himself in a portrait group, his companions being Sir Charles Cotterell and Sir Balthazar Gerbier, a work which Dr. Waagen considered to be the masterpiece of the painter, who, it may be remarked, suggests that he is the most important figure of the three, and there can be no doubt he is the handsomest. Gerbier's career was lately described in *The Architect.* He succeeded Inigo Jones as surveyor of the royal palaces, and he opened an academy for the teaching of art and other things. His "Three Chief Principles of Magnificent Building," "Encyclopædia of Art" and "Caution and Advice to all Builders" prove him to be an early writer on construction, and his portrait is therefore worthy of a glance. There is no work to exemplify a period of nearly a century. When the Royal Academy was founded Allan Ramsay held the appointment of principal painter to the king. He was a scholarly artist, but for some reason he was passed over when the first Academicians were selected. There is one portrait by him, *Lady Erskine*, which probably will receive attention on account of the prominence given to the lace, shawl, ruff and sleeves. The same matter-of-fact treatment is seen in the countenance and hands, and we may say it exemplifies the prose of painting. Hogarth's portraits are of a different kind, and are among the best in the exhibition. *Edward Montagu* is a boy, not a young prig. *Mrs. Desaguliers* proves that the artist was competent to paint beautiful women, which some critics deny, and the *Painter's Wife* is evidence that Mrs. Hogarth believed her husband could paint high art, for she is seated beside an easel with a large canvas on it.

Coming next to the period which was marked by the foundation of the Royal Academy, we find that there are no less than eighteen examples by Reynolds. The most interesting are his own portraits; one belonging to the Rev. W. H. Wayne has been often engraved, but in the plates the peculiarity of Reynolds's mouth is exaggerated and made to appear as a defect. The second portrait is nearly similar, but the wig is absent. The grandiose portrait of Dr. Ash, the founder of the General Hospital at Birmingham, is nearly 8 feet in height, and the surroundings are more varied than usual. He holds a plan of the hospital, and behind him is introduced a statue with "Benevolentia" inscribed on the base. Some of the President's journeymen must have been long occupied with this work, and we may also confidently assign to them the wonderful embroidered robe which Queen Charlotte wears, as well as the robes, curtains and architectural background which appear in the King's portrait. The figures in the *Venus and Piping Boy* are not of the Greek or an elevated type. There is a small study for the picture of Mrs. Lloyd as Rosalind cutting her husband's name on the trunk of a tree. This also is a favourite with engravers. But Reynolds would not recognise that the heroine was suited at all points like a man. In truth, he is not seen in force this year, and the same may be said of his great rival. Gainsborough's *Two Daughters* will always have value on account of the subjects, but it must be allowed that he was less flattering to them than to ordinary young ladies. One has a portfolio on her lap, the other looks with lack-lustre eyes, as if deficient in intelligence, at a statuette. If Gainsborough desired to reveal that they were not born for art he succeeded. His *Miss Ogle* must have been a charming work; the arm on which the lady rests her head is represented with unusual power; unfortunately the colours are faded. The contrast between this work and his *Felice de' Giardini*, a man whose scarlet coat is as bright as if it were painted a year ago, is remarkable. The other parts of the costume are finely rendered, and Gainsborough never painted a more characteristic head or a more dexterous right hand. He had a weakness for musicians. Dr. Johnson, in reply to a statement of Goldsmith's about Giardini earning not more than 700*l.* a year, remarked "that was but little for a man to get who does best that which so many endeavour to do." The violinist was the Joachim of his day. Another portrait which must have pleased Gainsborough while painting it is *William Lewis, the Actor*, who wears the finery of the age. At one time the *Miss Martha Ray* would have had a crowd before it, for the original was the victim of Hackman, a clergyman, who shot her in a fit of jealousy and was executed for his crime.

Richard Wilson is represented by four landscapes, suggestive of the pseudo-classicism of the eighteenth century, *Lake Nemi*, *Cicero and His Villa*, *The Lake of Albano* and *The Unransomed*; the last shows a man in stage costume of the time about to stab a figure who is kneeling. Near them are queer rocks over which water rushes with great force. It is not difficult from the others to realise the principles he adopted for composition. John Crome's *Preston Town, on the Orwell*, is conventional in parts, but *The Bathing-place, Norwich*, is more natural. Wood, sky and water recall nature. Paintings by William Marlow are not often seen. The view of Florence now appears to be little more than a monochrome, but the detail of the bridge and the houses along the Arno resemble the views of London bridges by Samuel Scott, who taught Marlow.

George Morland's small *Tea Gardens* has been engraved. The chief figure is a woman with a very tall head-dress who is holding a baby; there are other children and two men. *Children Playing at Soldiers*, by the same painter, and his *Nut Gatherers* suggest that the unfortunate prisoner of publicans was at heart a child. Happily, the colours are in keeping with the subjects, and are still fresh and natural. John Opie, the Cornish wonder, merits more attention as a portraitist than he has received. Gainsborough would have approved of the *Mrs. Warde*, who looks out from beneath a very large straw hat, of which the strings are tied in so curious a way they divert attention from the face. A second work is *Master Impey*, an experiment mainly in browns, and which may be the picture he first exhibited in London before he had enjoyed opportunities for studying painting. Sir Henry Raeburn found a noble head in one *John Gilbert, Esq.*, and his broad manner has done justice to it. It is the most satisfactory of the examples by him in the galleries. We cannot see one of Romney's most successful class of paintings. There is a head of *Mrs. Yates*, the actress, who does not appear to be posing; although it is only a half-length the figure in some way suggests a physical defect. The *First Earl of Yarborough*, another half-length, is effective without any sign of artifice. A full-length *John Bensley Thornhill* shows a boy in a most unboyish attitude with his head supported on his right hand, his feet crossed and his right arm resting on a ledge. If it were not for the latter he could not stand in such a position. *W. R. Cartwright of Aynhoe* continues to be very brilliant, and suggests either a lawyer or a parson. The *Elizabeth Lady Holland* represents a châtelaine who exercised despotic power over Whig politicians when they visited her house at Kensington. Romney has not only painted the face with an appreciation of her beauty, but has condescended to give the details of the dress with unusual attention. The one portrait which is supreme is Hilton's *Mrs. De Wint and her Daughter.* If called *Maternal Affection* or *Child Worship* it would have made a popular engraving. A young woman in white holds a plain child in her arms, who plays with her hair. The mother looks on the child with love and wonder, like a votary before an idol. Hilton was devoted to high art, and suffered in consequence. If he could have humbled himself to paint portraits it is evident from this example he would have surpassed his contemporaries in the early part of the nineteenth century.

It is with a sense of relief the majority of visitors will enter Galleries No. IV. and V., which contain works of English artists who recently were working. Never before was such an opportunity presented of appreciating the work of Simeon Solomon, and the conclusion must be drawn that through his own waywardness he failed to do justice to his extraordinary talents. Mr. Holman Hunt made efforts which must be called heroic to present to the world types of the Israelites. But as if by instinct Simeon Solomon realised those types in a way which has never been presented more impressively. In his daily life he was as irregular as Morland, but in the sixteen paintings and drawings at the Academy we can detect no careless strokes. In spite of depravations the man was a mystic and he was especially successful when his subjects were beings who were endowed with a like gift. Priests have been often represented holding a monstrance, but when was worship of the unseen shown with such power as in the figure of a young priest, called *The Mystery of Faith?* Another figure of the same kind is a young Israelite harper, who in a balcony is raising his hosanna. *The Finding of Moses* and *The Mother of Moses* should be recognised by publishers of the Bible as adapted for illustrations of the scenes in Exodus. His power was not restricted to one class of work, for in *Love and Winter*, an almost nude figure of a woman, we have a painting which is worth acres of the Burne-Jones class of allegories. In water-colours Simeon Solomon was as skilful as in oils. His paintings have the rare quality of suggesting much more than appears on the canvas or paper.

There is only one oil-painting by John Frederick Lewis, *An Intercepted Correspondence: Cairo.* It will sustain a comparison with any pre-Raphaelite work, for when was an Egyptian interior represented with greater fidelity? The colours could never have been more brilliant. His *Spanish Fête*, one of the water-colours, contains many figures of peasants enjoying themselves under a vine-covered pergola, which allows a display of that light and shade in which Lewis delighted. There are other drawings of eastern subjects also by him. By Albert Moore is one work, *White Hydrangeas*, the plants being accessories to a nude female figure who stands near an inlaid door-post. This is a painting to which the term harmony could be applied without abuse. Few pictures caused so much excitement as *Sir Isumbras at the Ford* when it appeared at the Academy in 1857. It was hieroglyphics to many, but it is easy to understand Charles Reade appearing as a lunatic before Mrs. Millais and declaring fiercely, "I simply must have that picture though I am but a poor man. I would write a whole three-volume novel on it, and then have sentiment enough to spare." Afterwards he wrote to Millais, saying, "I am very proud to possess it. Either I am an idiot or it is an important work." Later it came into the possession of Mr. Robert Benson, who lends it. A Colonel Campbell was the model for the knight, and Millais's eldest son for the little boy. The bridle and trappings were originally simpler than they now appear, having been altered at Mr. Benson's desire. Ruskin, who had broken with the artist, declared that he was unable to comprehend the meaning of the picture, and it might mean either a knight returning weary in the evening, or a type of human life tried in war, or the angel of death bearing children whither they know not. But, on the whole, he regarded it as no more than a rough sketch of a great subject in which everything was wrong. Although it was evening the figures were treated as brightly as in sunlight. The water was brighter than the sky, the armour does not reflect colour, the saddle-cloth and the peacock's feather were considered to be alone worthy of praise. Whatever may be its meaning the painting seems destined to be enduring, and the human expression of the faces of the old man and the children are fatal to the monstrous *Mnemosyne* of Dante Gabriel Rossetti and the doleful inanities of Sir E. Burne-Jones which are near it. To place examples of Burne-Jones and Rossetti in a room containing works by Millais, Solomon, Albert Moore and Watts was to submit them to a test which they could not withstand. The Winter Exhibition of 1906 should at least dispel two delusions.

In the same room there are two views of Whitby by A. W. Hunt, which he never surpassed often as he selected the same subject. He is more scenic in the *Drachenfels on the Rhine*, which is in the next room. The painting of the *Grand Mosque of Damascus*, by Lord Leighton, would not at first sight be taken for his work. The building no longer exists, but the painting appears to represent the interior with fidelity, although the artist has sacrificed his own peculiarities. There is a single painting by P. R. Morris, *The Mowers*, in which the rhythmic movement of the men is suggested simply but forcibly. Water has been introduced into several of the paintings of the exhibition, but the only painting which indicates its power is *Running Water*, by George P. Chalmers. He did not always do justice to his abilities, and he is mainly known as a portraitist. But here we have a spate of a kind which not one of the artists who makes such subjects a specialty has been able to rival: a companion picture of a wave should have been obtained to show the power under different conditions. David Roberts should have popularised the ecclesiastical architecture of Belgium, that is, if paintings were competent to overcome the public indifference to the art. His interior view of St. Gomar, Lierre, is characteristic, and the only fault Mr. Ruskin could find with it was that the painted glass of the windows appeared to be darker at the bottom than the stone used in the jambs. C. R. Leslie's *Picnic* is not in his usual style, for he was most successful in what are known as costume paintings. Here we have a modern picnic of humble people, and the principal figure appears to be enjoying himself by reading a newspaper. All the parts are carefully painted, and by an artist like John Leech would be considered an excellent production for a journal. But Leslie is not associated with anything later than the eighteenth century, and we expect more dignity in anything from his hand. *Milton visited by Andrew Marvell* is one of Boughton's careful works, introducing the faces which became familiar in other paintings. Etty's *Homeric Dance* is vigorous enough, but it would not serve as an illustration to either the "Iliad" or the "Odyssey." J. W. Inchbold began by painting moorlands, and some critics supposed he was competent for no other class of work. But his *Drifting* is a delightful view of Lake Leman and the mountains of the background.

In the Water-Colour Room Turner reigns. Mr. F. H. Fawkes has lent six or seven drawings which are marvels as presenting scenes mainly in the Alps. The two *Falls of the Reichenbach* fortunately do not appear to have much faded. Among the oil-paintings is a surprise in Turner's *Venus and Adonis*. There are also some gems of art by Frederick Walker, which originally appear to have been prepared for the illustration of stories. The *Cassandra Fedele*, by Sir F. W. Burton, is not the Trojan prophetess, but it is enough to refute those who assert that the artist could not draw. *A Side Canal, Venice*, by James Holland, is faithful, but his best work is the view of the Campo di San Giovanni e Paolo, with Verrocchio's equestrian statue of Colleoni. The Black and White Room is filled with about eighty studies and drawings by G. F. Watts, which he has bequeathed to the Royal Academy.

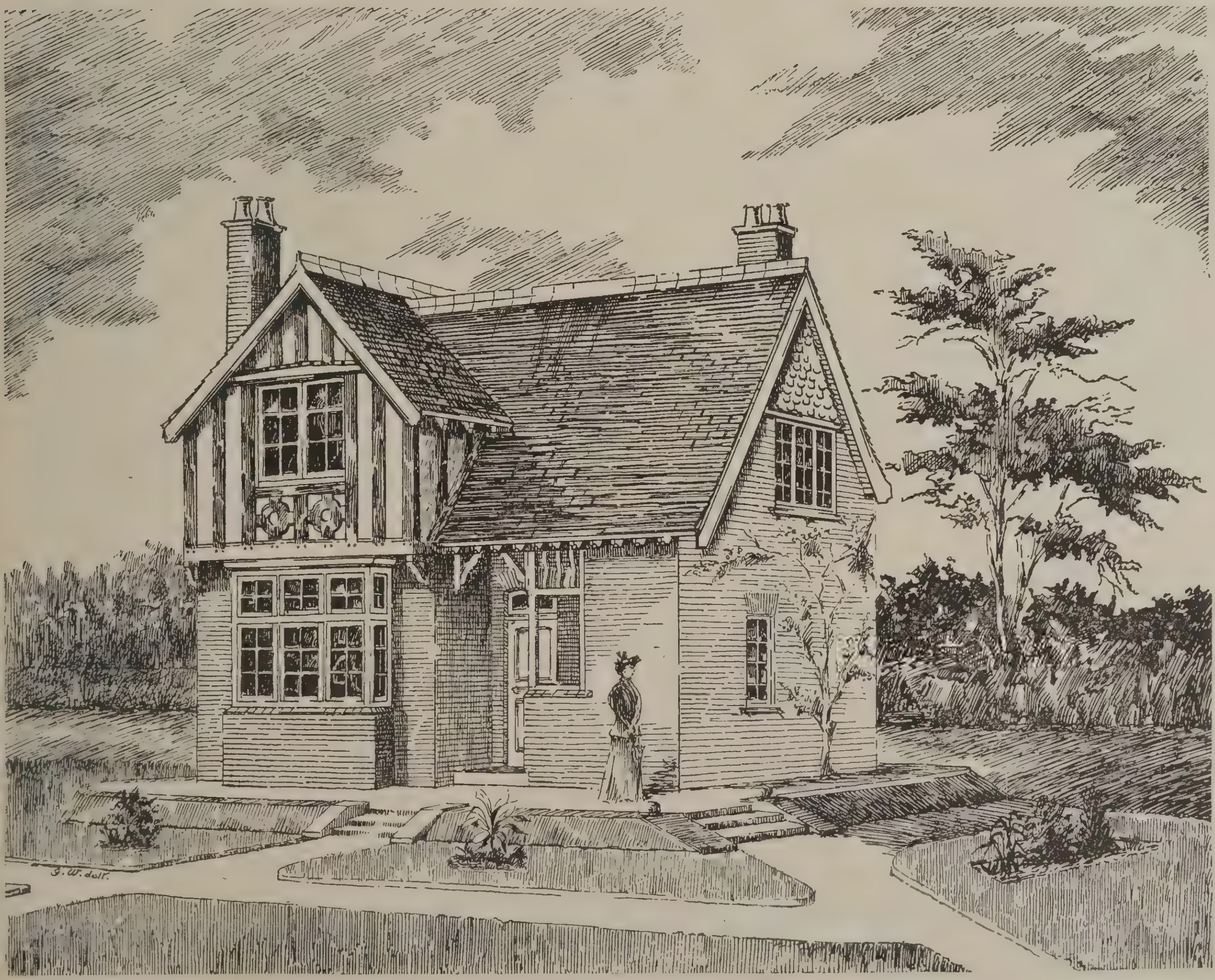
The foreign masters are not numerous. By Vandyke is a very large *St. Sebastian*, which seems divided into two equal parts, one occupied by the nude figure of the saint, the other by a mounted officer who superintends the preparation for the martyrdom. The body of the saint does not suffer from arrows. The

Painter and His Family, by Frank Hals, measures 6 feet 7 inches by 9 feet 4 inches. The artist and his wife, a son and daughter all stand in a line, and all are grinning. The work is evidently an artistic freak, which no doubt gave rise to much laughter from visitors at the house in Haarlem, especially as Frank Hals is booted and spurred as if he were a cavalier. The figures are dressed in black varied by a little white. The painter knew as well as any of his contemporaries the value of the principle expressed in the words *rien de trop*, and black and white are not colours which afford perpetual delight. In another picture Jordaens represents himself as if he were a satyr looking through a stone opening along with his wife, who is a buxom blonde. By Hendrik Dubbels is a *Calm with Boats*, in which the water is as white as the sky, and the boats appear to be resting on some novel support.

CHRIST CHURCH CATHEDRAL, DUBLIN.

A LECTURE was delivered in Christ Church Cathedral, Dublin, on St. Stephen's Day, by Sir Thomas Drew. Addressing a large audience from Strongbow's tomb, he again related the history of that warrior, of his sister Basilea, the wife of Raymond-le-Gros, and of Laurence O'Toole, their ally, the Hiberno-Danish Bishop of Dublin, who received the invaders in friendship and joined with them. Laurence was no Dane, but an Irishman of gentle birth. He was educated at one of the famous Irish seminaries, travelled much, and was known in Rome as a distinguished man, and at Dublin as the friend of the poor. The character of Laurence was succinctly sketched by the lecturer, who also described the method by which he sought to reform the administration of the service of the Church by bringing from Flanders a community of canons to supersede the community of Danish seculars. Further, Laurence, according to his "Life," first "caused men and boys in the cathedral at Dublin to stand in order about the altar, and lend to their service decorum and to their voice harmonies." It is possible, therefore, to date at 1165 the introduction of choral worship, which has been maintained by unbroken devolution, if in varying form, in the church of Laurence for over 700 years. Laurence influenced the gentlemen immigrants to mark their possession of the land by founding for him a nobler church, such as he had seen in other lands, and Strongbow, FitzStephen and Raymond-le-Gros were, according to the record, the co-founders, with Laurence himself, of that church. The lecturer then described other interesting events which have found a place in the history of the cathedral, and which, as they occurred in comparatively modern times, are known and understood by the general reader.

Application is to be made to the Local Government Board by the Essex education committee for a loan for the enlargement of the Vange schools, the plans for which they have just passed. They have also accepted the tender of Mr. J. T. Ruffell, of Hockley, Essex, for the enlargement of the Hawkwell school, and are about to erect new schools at Thundersley.



SMALLPOX HOSPITAL, WALSALL—CARETAKER'S COTTAGE.

THE accompanying illustration represents a cottage recently erected by the Corporation of Walsall for the caretaker of the Walsall smallpox hospital. Messrs. Wootton & Sons, of Bloxwich, near Walsall, were the contractors for the work, which has cost 250*l.* The plans were prepared in the office of Mr. R. H. Middleton, Assoc.M.Inst.C.E., borough surveyor, Walsall.

NOTES AND COMMENTS.

The Royal Victorian Institute of Architects have displayed courage in suggesting an amendment of the Melbourne by-laws to the effect "that the official referees be empowered to approve plans of buildings, provided that such plans are in accordance with the building regulations of certain of the principal cities of the world, the list of such cities being agreed upon. The above to be applicable to additions to and subdivisions of old buildings, as well as to new buildings." The Melbourne City Council must be more generous than similar authorities if they will agree to be bound by foreign precedents. For other amendments the practice followed in Chicago is recommended. The use of steel or iron construction is suggested as a remedy in some cases. For example :—"That the official referees be empowered to allow buildings to be raised to additional heights without thicknessing the existing walls provided that sufficient extra strength and stability be obtained, by steel or iron construction attached to such existing walls, but with independent foundation ; that the centre of gravity of an external cornice be that of the whole cornice (including the portion in the wall), and that the centre of gravity shall be within the wall, in lieu of present by-law, and that steel construction for cornices combined with fireproof materials be allowed." In the case of alterations to existing buildings, it is suggested that slow-combustion materials, such as Uralite, asbestos, &c., should be allowed in ceilings, &c., in lieu of party arches. Evidently in Melbourne they are advanced in their ideas, and it will be satisfactory if the proposed amendments are sanctioned.

If a plot of land is vested in a public body under the provisions of the Metropolitan Open Spaces Acts, 1877, 1881 and 1887, and the Disused Burial-Grounds Act, 1884, the obligation imposed by those Acts of keeping such plot free from buildings does not prevent the public body from taking measures to prevent the adjoining landowners from acquiring an easement of light, even though this involves the erection of a screen. This very sensible decision was arrived at by the House of Lords in the case of the Mayor of Paddington *v.* The Attorney-General, reversing the decision of the Court of Appeal, and restoring the decision of Buckley, J. The decisions are numerous, and possibly conflicting, as to the circumstances under which a screen may be a building. But it was perfectly obvious that there was no intention in this case to erect a building. There was merely an intention to do what every prudent landowner would do, and what every public body which has land vested in them for public purposes ought to do, *i.e.* take good care that the value of the land in question was not deteriorated by allowing others to acquire easements over it.

At the last meeting of the Glasgow Corporation the subject arose of the erection of buildings in Hope Street on ground which had been obtained in the course of the widening and improvement of the street. It was recommended by the statute labour committee that Mr. John Keppie, of Messrs. Honeyman, Keppie & M'Intosh, should be appointed architect, and that the property to be built should consist of shops, with dwelling-houses not exceeding five rooms and kitchen on the upper floors—the precise accommodation to be again considered in consultation with the architect. Some of the members advocated that the city engineer should be appointed architect. Others considered that smaller houses would be more suitable. After a discussion the appointment of Mr. Keppie was carried by a majority. The conclusion is satisfactory, for in Glasgow, as in a great many other places, there is a desire to give a monopoly of as many buildings as possible to the engineer or surveyor. The advantages that are said to follow are rather indefinite. As regards economy it is difficult to judge, for the preparation of the accounts of corporations and local authorities is a branch of science into which there must be a special initiation.

There is much commotion among the house painters of Paris at the present time because the Government propose to prevent by means of a new law the use of *céruse*, or carbonate of lead, which is commonly known in England as white lead. The workmen arranged to have an interview with the President of the Senate on Monday last in order to remonstrate with him, but steps were taken to disperse the crowd. It has been generally understood that for more than half a century the danger of *céruse* was recognised by Frenchmen, and that oxide of zinc or zinc white was preferred. But the old belief still prevails that there is a connection between high wages and danger. There are many house painters in Paris who take a reasonable view of the Governmental project, for they have suffered by using white lead. Between the two divisions the authorities will have to judge, and their decision will not be determined by any threats.

It is believed that a new building will be erected in Manchester which will serve for a reference library and a museum of art. The Manchester Art Gallery committee have prepared a report suggesting the extent of the accommodation which is desirable. At present the only paintings are representative of the modern British school. But it is considered desirable to have works of other schools and of other periods. There should be a collection of casts, but more complete than what is seen in Aberdeen. A print-room and an art library are necessary, and the contents should not be confined to drawings, engravings and etchings of the classes admired by amateurs, but should also include a collection resembling one at Cologne which would be of special utility to the workers and craftsmen of the Manchester district. Provision should be made of separate galleries for temporary and periodic exhibitions. A lecture-hall is also necessary. It is suggested that there should be special rooms for collections relating to Old Manchester, illuminated manuscripts, bookbinding, &c. It is considered by the committee that when a home is provided for collections gifts will be soon forthcoming.

Although the American Society of Civil Engineers could not agree to Mr. Carnegie's conditions for erecting a building in which several societies were to meet, the electrical, mechanical and mining engineers have adopted his views. Messrs. Hale & Rogers with Mr. H. G. Morse are the architects for the Union Engineering building, while Messrs. Whitfield & King have received the commission for the Engineers' Club. The floors are arranged in such a way that each will have a separate location. There will be in addition rooms in which members of all the bodies can unite. On the first floor there is a hall which will hold a thousand people. There are smaller lecture halls for ordinary meetings of the societies, and on the two upper floors will be their libraries. Members can utilise all the libraries, and in that way will have at their disposal an exceptional amount of varied information. Provision will be made to accommodate other societies. Care has been taken to prevent adjoining premises from attaining a height which would interfere with the lighting of the Union Engineering Building, which has a frontage of 125 feet and a depth of 100 feet. The structure will be ten storeys in height.

ILLUSTRATIONS.

CATHEDRAL SERIES.—TRURO: VIEW OF THE NORTH SIDE.

DEPTFORD TOWN HALL.

NORTHERN ASSURANCE OFFICE, ABERDEEN.

MESSRS. HARLAND & WOLFF'S SHIPBUILDING WORKS, BELFAST: INTERIOR VIEW OF COUNTING-HOUSE.

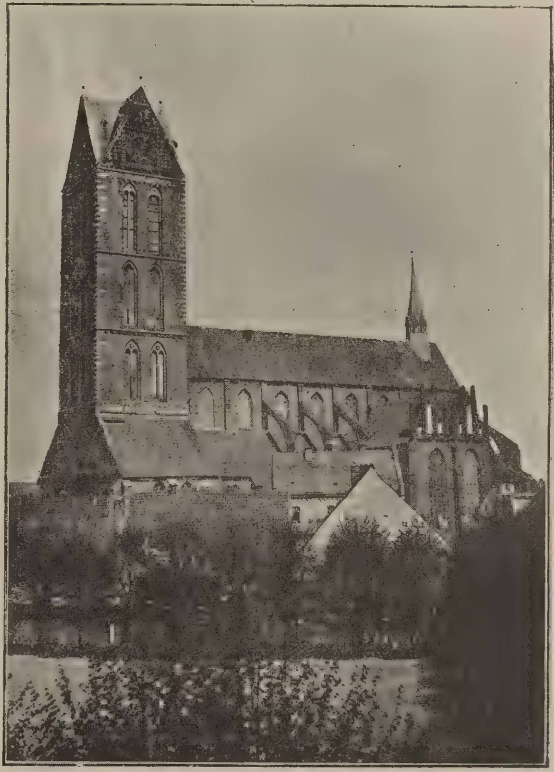
BRICK CHURCHES IN NORTHERN GERMANY.

By T. Francis Bumpus.

To one who has grown up with an admiration for the sturdy breadth, the long, low proportions and the simple dignity of the Gothic churches of England, the vast sky-aspiring thirteenth-century churches of France, or their contemporaries with which the Rhenish provinces are so richly endowed, those of North and North-East Germany hardly make so strong an appeal. But the true spirit of progress is to have a receptivity of mind which will enable one to discriminate and absorb as much of the good quality of every varied style as may be consistent with a sound view of art, and there is much to be learnt from a study of the great churches which so proudly dominate the cities of Mecklenburg, Pomerania, Prussia and Silesia.

The surface of that part of Europe which I have indicated is composed of sand or clay, and affords no other building stone than granitic boulders, supposed to have been transported thither from the Scandinavian mountains. These boulders furnished the stone from which many churches were built in the twelfth and earlier part of the thirteenth centuries; but the deposit, being superficial, was soon exhausted, and the hardness of the material precluded the use of ornamental detail. When, therefore, the progress of civilisation and luxury created a desire for buildings of grander proportions and greater wealth of detail it was necessary to seek for other materials. These were found in the clay of the country, and brick came into use, either exclusively, as in Prussia and Pomerania, or partially, as in parts of Poland and Silesia, where sufficient freestone for dressings and ornamental parts could be obtained at a moderate cost. Elsewhere stone, when wanted, had to be shipped from Scandinavia, an expensive process in Mediæval times.

St. George's, Wismar. Interior, looking East.


St. Mary's, Wismar, from the South-West.

In the hands of people like the North Italians, or of the country about Toulouse, brick was generally manipulated with much skill, but as the Baltic Germans were of all European peoples the least artistic, it is impossible to assign a premier place in the history of Mediæval architecture to the churches of these northern states.

Still, if no very high degree of merit can be claimed for them on the score of graceful contour, these structures deserve notice as well from the student of architecture in general as from him who confines his attention exclusively to those of the Middle Ages: from the first, as affording remarkable and perhaps suggestive examples of decoration in a material usually treated as little susceptible of ornament, and from the latter as exhibiting a peculiar phase of Pointed architecture.

It is as interesting as it is instructive to observe in the best examples how the architect, instead of forcing his material into forms and combinations for which its nature was but ill-suited, took advantage of its peculiarities, and gave us buildings which, if not elegant, are dignified and impressive, frequently picturesque, and from their height and spaciousness presenting us with not a few subjects for imitation in our own town churches.

Romanesque and early Pointed churches are scarce in this part of Germany. This is attributable partly to the late introduction of Christianity into these regions, and partly to the predominance of the Hanseatic League in the fourteenth and fifteenth centuries, when their cities, like those of the Low Countries, having reached the zenith of their importance and prosperity, buildings of a humbler class were superseded by others of grander dimensions.

Brick is used intermittently all over the north of Germany, but its almost exclusive employment is confined to a trapezium, whose lines, if traced on the map, would extend from the mouth of the Elbe to Dresden and Cracow on the west and south, and from Cracow to Königsberg, along the Baltic coast, to Lübeck on the east and north.

Starting at the north-west corner of our trapezium we find Lüneburg. Next, a little to the north-east, comes Lübeck, and then, keeping close to the indented shores of the Baltic, Ratzeburg, Schwerin, Wismar, Rostock, Stralsund, Greifswald, Anclam, Prenzlau, Stettin, Stargard, Colberg, Danzig, Marienburg, Frauenberg and Königsberg.

Then, following the courses of the Elbe and Oder, with their tributaries the Havel and the Neisse, are Havelberg, Stendal, Tangermünde, Jerichow, Brandenburg, Frankfort, Breslau and Neisse. In addition to these there are innumerable places lying off the beaten track, whose ecclesiology could only be thoroughly investigated by those with overmuch leisure.

In Westphalia and Saxony the prevailing type of church during the thirteenth, fourteenth and fifteenth centuries was that thoroughly indigenous one having a vaulted nave and aisles of the same height, and in some instances of the same breadth,* included beneath one high-pitched roof, and a choir—shallow if the church were parochial, deep if collegiate or conventual—and terminating sometimes rectangularly, but more frequently in an apse of three or four sides, and generally without an aisle round it.

This "hall" type of church makes its appearance in the brick district now under review, as, for instance, in the vast Marien Kirche at Danzig, at Königsberg, at Rostock, and in the graceful church at Prenzlau, but most frequently in the city of Brandenburg, where almost every church is what is termed a "dreischiffige," literally "three-naved" or "shipped" church. Even more common in the extreme north is the lean-to aisled and clerestoried church with the apse and procession path, from which chapels occasionally radiate. This brick architecture moved with the German colonists from the Weser to the Vistula, and if, as is supposed, its original home was in the Netherlands, the *raison d'être* of the clerestoried and chapel-surrounded church is made clear.

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* In the Dom at Erfurt the aisles are wider than the nave.

The cruciform plan is not very frequently met with, being confined chiefly to churches that were the seats of bishops or the centres of conventual establishments, as, for instance, in the purely Romanesque cathedral of Ratzeburg, in the mixed Gothic ones of Brandenburg and Lübeck, and in the complete Gothic one of Schwerin; in the Romanesque Premonstratensian church of Jerichow, near Stendal, and the fourteenth-century Cistercian one of Doberan, near Rostock. Occasionally we find a great cruciform parish church such as the clerestoried ones of St. George at Wismar and St. Mary at Stralsund, and the vast "hall" one of St. Mary at Danzig, but the most usually adopted plan appears to have been that which consists simply of a clerestoried nave and choir under one line of roof, after the model set by St. Mary's, Lübeck, and which was followed at Stargard, Stettin, Stralsund, Wismar and elsewhere.* Founded as they were by the citizens, and standing as they did in the closest connection with the civic community, the modest dimensions of the choirs of these great town churches distinguish them from those in which accommodation was required for a large body of regular or secular clergy. The civic mind likewise finds expression in the singular mixture of boldness and sobriety exemplified in the loftiness of the nave and towers on the one hand, and the sparing use of superfluous ornament on the other, as well as in the preference shown for the spacious, the airy and the perspicuous. To find several churches over 100 feet high internally is by no means uncommon in these parts.

There is one feature in these great Baltic churches rarely if ever found in the central and southern States of Germany, viz. the private chapels formed between the buttresses, and in some instances extending completely round the church.

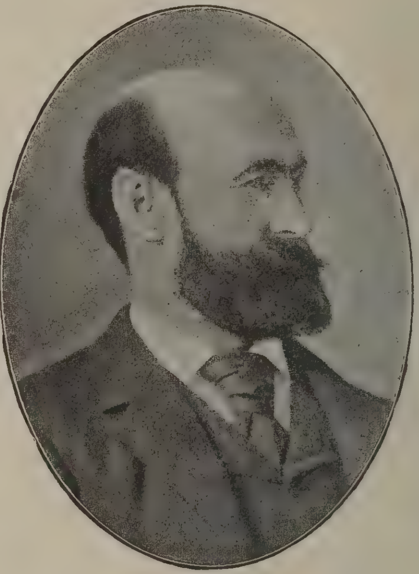
The extraordinary number of these chapels is accounted for by the desire of the rich burger to perpetuate his name, and where, as for instance in St. Nicholas at Wismar, these chapels have succeeded in retaining some of their ancient furniture and decoration, the effect is very picturesque.

(*To be continued.*)

MR. F. H. KIMBALL ON SKYSCRAPERS.

(By our New York Correspondent.)

SEATED chatting with Mr. Francis Henry Kimball, New York's pioneer architect in "skyscrapers," one soon becomes so engrossed in the subject of a modern American city's office buildings as to forget the position of a professional draughtsman's working room on a twenty-second storey, nearly 300 feet above noisy Broadway's street level. Yet a look out of the window through the balustrade shows you the Hudson glistening far below, with ferry boats darting hither and thither in the passage to and from the Jersey shore. Away to the north stretches New York proper on Manhattan Island, but immediately in the forefront, across the churchyard of Old Trinity, the eye on the same level rests on the topmost storey of the latest triumph of the New York architect's art, the Trinity Building. We are in the Empire Building, a towering structure with the narrow front of 78 feet along Broadway, but enjoying a façade twenty-two storeys high and more than 200 feet long, directly facing the open area of Trinity churchyard. The "pioneer skyscraper" of New York is the Manhattan Life Building, within a stone's throw across Broadway. High office buildings of more than twelve storeys and the era of rapid construction date from its erection, and that is only thirteen years ago. Mr. Kimball brought wide and valuable experience to the mastery of the new difficulties confronting the builders. He solved problems which had never before claimed the attention of architects, and introduced new methods of construction hitherto unattempted in buildings. He sunk foundations to bed-rock through treacherous soil by caissons under pneumatic pressure, first introduced in this instance, and the fresh experience gained was later utilised with full success in the erection of the Empire Building, executed between May 1897 and May 1898, and later in the case of the Trinity Building, also begun and finished within a year and opened with a full supply of tenants last May-day. Behind the Trinity Building the foundations are now being laid for a twin skyscraper on the site of the old Boreel Building, adjacent to Thames Street. This in the same way is to be finished and ready for occupation in 1907 on May 1, the customary date for tenants in New York to begin their leases.



Francis Henry Kimball, *Architect.*

The last few weeks have been a strenuous time for Mr. Kimball, the architect employed by the United States Realty Company, the owners, to carry out their undertaking. For two months or more the architect and draughtsmen are working at full pressure, drawing out plans and specifications, and busy with the multitudinous details in supervising the work of the contractors, who have done the wrecking of the old building and are preparing to excavate the site and lay the foundations by sinking caissons and embedding them in concrete. The invention of the elevator, or lift, rapidly and safely worked by pneumatic or electric means, created the skyscraper, making buildings of twenty storeys possible, perhaps of forty in the future, though it is hardly conceivable that these will pay their owners.

"How did I invent the caisson?" said Mr. Kimball after my question. "It was like this. I was employed on the New York Theatre and had to build up the stage wall next to a property whose owner would not let me underpin his wall or use it for support. I came to the conclusion to build my foundation by setting concrete round caissons. There was no contractor then willing to undertake the job, but eventually I obtained cylinders of the size and strength I required and dropped these down to the bed-rock. When the wall, based on these, went up, the owner brought suit that his wall was interfered with, but the judge ruled him out of court. Then came the Manhattan Life Insurance Building. I knew the nature of the ground, and used the same method. Broadway is the backbone of Manhattan, and on either side the rock is crumbly. However, we laid a sure foundation after sinking the caissons, and in the new skyscrapers bordering Trinity Church have raised our immense buildings on a base, if possible, still firmer.

"Just as the Empire Building was the most complete structure of the advanced class of American office buildings combining architecture and utility, so the Trinity Building is a conscious endeavour to give a type of modern high-storeyed office building exhibiting magnificent strength and a high degree of beauty without affectation, with symmetry of proportions, and complete and agreeable harmony of parts. In the Empire Building the main expression is

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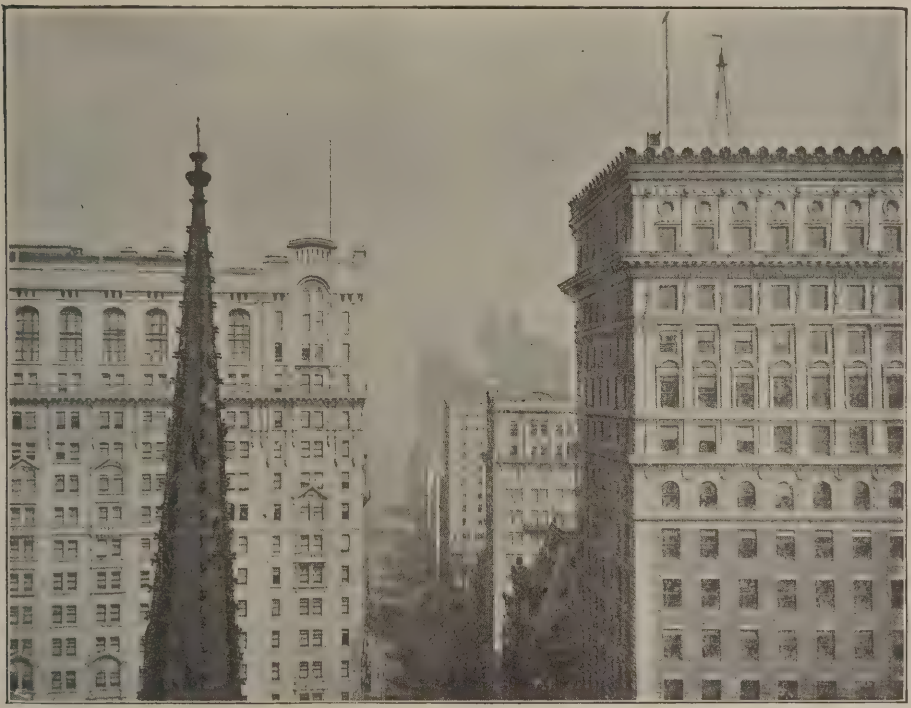
* A quasi double transept, of the same height as the aisles and gabling out of them, occurs at St. Mary's, Lubeck, and at the Wismar churches of St. Mary and St. Nicholas.

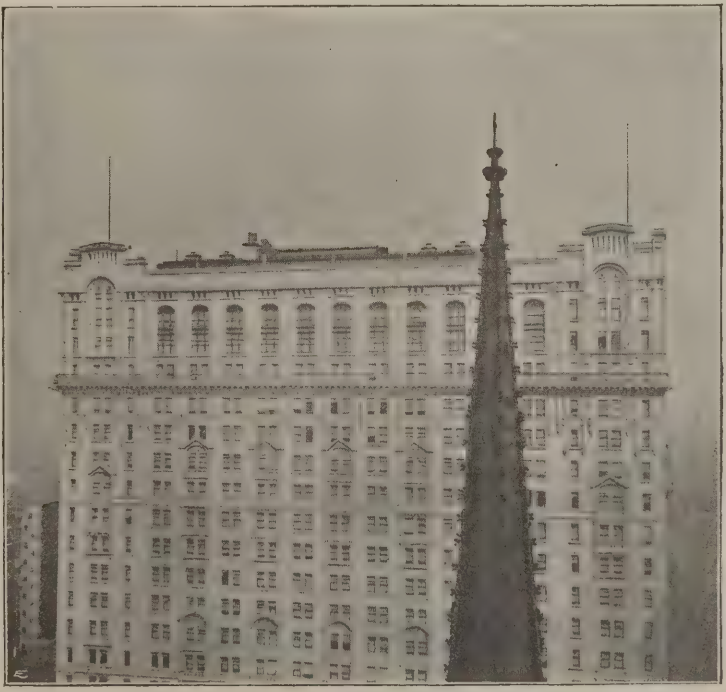
Early Italian Renaissance, with features that are Græco-Roman. New York's best buildings exhibit detail founded upon the work of the Italian Renaissance, and the Empire Building's simple lines and Classic details recall the spirit of the palaces of Florence and Genoa and Rome, as distinct from the Chicago buildings, whose designers have largely borrowed their detail from the Romanesque work of the South of France. In the Trinity Building, however, I have tried to introduce greater harmony with the Gothic style of Trinity Church. That of course is the ecclesiastical Gothic"—and we had only to look upon the crocketed spire, the apex of which barely reaches the top of the skyscrapers adjacent, to illustrate the remark. "But I should prefer to call the new office building an adaptation of the Gothic style, a 'Civic Gothic,' differing from the strict Ecclesiastical and from the Gothic as used by the Victorian Gothicists in England, who use it, as in the case of Street's Law Courts in London, with all the detail of Mediæval turrets, traceried windows and Pointed vaulted corridors, at the expense, I am afraid, of light and ventilation. In the Trinity Building as originally designed there were turrets at the ends. These, it was thought, could be dispensed with, but in the completed design, when the twin sister skyscraper is completed on the Boreel site, the tower which you see in the original design will bring the roof into harmony.



New York's Pioneer Skyscrapers—New Trinity Building on Left.

"In the execution of the Trinity Building I suppose I have been influenced by the feeling I acquired early in my career in my training under Burges, your one great architect. I naturally have a preference for his design of the Strand Law Courts, which was in competition with Street's, though it lost the award." Here Mr. Kimball brought down from a shelf the book of the Burges design, showing how that architect would have worked in Temple Bar, or rather a substitute bridge from the Temple to the Courts, instead of the griffin which now marks the site of the old gateway.

"You know," he continued, "I was for a year or two a draughtsman in Burges's office, and well I remember my arrival in London with my wife one Christmas Eve. I had to report on the day after Boxing Day. We stayed at the Golden Cross Hotel, and I recollect how the bells of St. Martin's started ringing soon after our arrival dead tired, and kept us awake all night. We stayed there that I might be near Burges's office in Buckingham Street. Northumberland House was just about to be pulled down, and the lion's tail is firmly fixed in my memory.



Façade of Trinity Building.

"With one difference in the practice of English and American architects I was much struck. The system of employing the distinct professional class of 'quantity surveyor' is unknown in America. Is it dying out in England? His special work increases the period of construction, I imagine. In the American system the process of the quantity surveyor's estimate taking is eliminated, and when the plans are drawn and the contractor gives in his estimates, the architect himself 'takes off' and checks them. This adds greatly to the architect's responsibility, and he has often to employ experts, to whom he gives part of his own commission. Often, too, he is not an expert engineer, and must employ one fully qualified to deal with the great engineering problems that confront him. He is the supervisor, however, and nowadays must be familiar with modern requirements of sanitation, elevators, ironwork, fire-escapes and fire-prevention appliances, and many other necessaries of a building, so that the architect's commission does not cover all his requirements. Owing to the development of the tasks thrown upon the architect it is only reasonable that the owner should bear more of the expense in retaining expert advisers than has hitherto been the custom. As regards the engineering proper, the elevator system to be carried out in the up-to-date office building is of primary importance, the elevator and the telephone being rivals as chief factors in the demand for the speedy conduct of business. By the easy and ready working of the elevators is engendered confidence in the safety of the topmost storeys. In the Empire Building gathers daily a population of 8,000. For the Trinity Building we prepared ourselves to convey from 3,000 to 4,000 people to their desks in their offices, by installing eleven elevators each holding twenty-five people. By a system of local and express service the demands of the 'rush hours' are provided for at the opening and close of the business day, when traffic is likely to be as congested as on Brooklyn Bridge. The round trip up and down takes two minutes and a half. Ten elevators are for passengers, one for freight. They are of the 'plunger' type, the cylinders being sunk to a depth of 300 feet. The main corridor of the building, with its gilded ceiling and great bronze doors, is one of the most interesting in New York. The Gothic elevator enclosures are an entirely new feature in commercial architecture, and is likely greatly to extend the application of the Gothic style to modern needs."

"And what are the chief precautions to insure the safety of the building's inmates against fire and other calamities?"

"The equipment to meet a sudden outbreak of fire is believed fully adequate to cope with any emergency. There is plenty of fire-extinguishing apparatus on each floor, and the precautions are so numerous that the danger is believed to be minimised. In any case there is not much to burn in the individual offices, and each can be easily isolated. The flooring is fireproof and the steel beams are embedded in cement. The windows and elevators are 'grilled,' so that the glass cannot fall out with a sudden heat, and this ought to give time for the firemen to come to the rescue."

Incidentally, it may be mentioned, the building is fitted with fireproof mahogany and impervious brickwork. There are 12,000 pulleys used in it. There is a complete clock system, all the clocks being synchronised electrically. Prompt despatch and receipt of letters is secured by the mail chutes which run from top to bottom, and the cleaning of the building and offices is effected by the vacuum sweeping process.

In the mass of detail relative to the Trinity Building, it would be easy to obscure the main characteristics of even such a gigantic building. I can only add that as the headquarters of some of the greatest financial and industrial concerns of the United States, numbering some seventy-five tenants for its 308 rooms, with a rental value of over 100,000*l.*, the rent for the floors above the first bringing in from 12*s.* to 14*s.* per square foot of floor space, the new Trinity Building carries on the traditions connected with its predecessor on the same spot as a focus of New York's business interests. Here was formerly the real estate auction-room of the city, and its offices were the centre of the wholesale coal trade. Now, as of old, Trinity Building is closely associated with Wall Street, down which looks Trinity Church, whose architect, as of the old Trinity Building, was Richard Upjohn, the foremost leader of his profession in his time, and whose shade may well still haunt the structure that has replaced his own city office and those of his brethren.

CATHEDRAL OF ST. MAGNUS, KIRKEBO.

A CORRESPONDENT of the *Scotsman*, writing from the British Consulate, Faeroe Islands, says:—

On the exterior of the east end wall of the ruins of St. Magnus Cathedral, Kirkebo, Faeroe Islands, is a carved and engraved stone representing the Crucifixion, with the Virgin Mary and Mary Magdalene on either side. Around the sculptured stone is a Latin inscription, much fractured. The legible portions, however, had been deciphered as—

> Hæc est habitatio harum sac...rum reliquiarum de ligno
> Domini de hostio ecce il (?) virgo Maria S......e ossa
> Sti Magni mr...... de tumulo sti Thorlacii,

from which it had been surmised that "there had been deposited here holy relics of the true cross, the sacrificial lamb, the Virgin Mary, Mary Magdalene, bones of the martyr St. Magnus, and of St. Thorlacius." The last is an Icelandic saint.

A Danish architect, Mr. L. Koefoed-Jensen, had been deputed by his Government to carry out certain works of exploration and restoration at Kirkebo, and on June 9, 1905, he was to remove this stone to see whether the relics mentioned were still *in situ*. The Amtmand (Governor) kindly invited me to attend this most interesting operation. Accompanied each by some members of our family we left Thorshavn, the capital of the islands, early in the morning for a five-mile walk over the hills to the south-eastern extremity of the island, Stromo, where the ruins stand.

The name of the founder of Kirkebo Cathedral only became known in 1899, when a manuscript was discovered known since as "Archbishop Henrik Katteisen's Copy-book." He was Archbishop of Trondjem A.D. 1452-8. In the section dealing with Kirkebo, from information supplied by the Faeroese bishop, Johannes, in the beginning of the fifteenth century, it is stated that Bishop Johannes had, with others, taken up from a grave in Kirkebo the bones of Erlend, who was bishop of the islands from 1268 to 1308, and had had them washed with a view to canonisation. In his grave was found a leaden tablet, with a Latin inscription in Runic characters, which states that Erlend more than his predecessors enriched the Faeroeses church with privileges, property and worldly goods; that during his time the church and bishop's see were damaged by incendiarism; that afterwards he began to make stone buildings, and laid the foundations of a stone cathedral and nearly finished the walls. But later on the bishop met with strong opposition from the Faeroese because he laid heavy taxes upon them for the building of the church and because he confiscated property.

After Bishop Erlend's death the cathedral was not continued, owing to the unwillingness of the islanders, and because shortly after this the "Black Death" nearly exterminated the population. In the same unfinished condition it still stands to-day in weather-beaten beauty, a monument of unachieved ambition. The outside measurements of the cathedral are:—Length, 84 feet; breadth, 34 feet; height, 28 feet. The walls are about 5 feet thick. By the side is a sacristy 31 feet by 18 feet.

Slowly and carefully the stone was being loosened from its surrounding cement, pronounced by the architect to be the original, a circumstance which considerably raised our hopes of finding the relics said to have been deposited there 600 years ago. Tradition says that anyone attempting to remove the stone would meet with an accident; only one such attempt is recorded, and resulted years ago in a broken arm. While supervising work a few days before, the present architect had been struck by a falling stone, from which he was still deaf. If the relics were still so potent, surely they were still there. Finally the stone lay face downwards on a small cushioned scaffold prepared to receive it. We peered into the recess and saw nothing but solid masonry. The stone tablet itself, however, was 16 inches thick, and proved to be the sought-for receptacle. Slightly raised in the centre of the inner side was a flat stone covering a hole in the tablet 3¾ inches long, 3 inches broad and 2 inches deep. This hole was filled with a tightly pressed quantity of brown clay-like mould, said to be unlike any local soil. Amid this lay a small oblong leaden casket, pressed into an irregular shape, no doubt to hold the contents immovable. The lid merely required lifting for removal, but this was deferred. In the middle it had been punctured, probably in the pressing, by a round blunt instrument. There was a fracture or cut also along one side of this leaden casket through which could be seen some mould inside the casket of the same kind as that which filled the hole in the stone. Wondering whether the relics still remained more or less in their former condition, for it now seemed certain that something had been deposited there, we followed the architect and Amtmand into the farmer's house, where the casket was to be opened.

This old house is now being searched, and is to be restored by the architect. It stands close to the ruins, and consists partly of a "block-house" two storeys high, one of the upper rooms of which is said to have been the bishop's library. The stone cellars and foundations were doubtless built by Bishop Erlend. They are 60 feet long, 38 feet broad and 9 feet high, with walls 5 feet thick, built of the same stone and in the same manner as the cathedral. In the cellar is a square stone enclosure, entered only by a trap-door in the floor of the room overhead. This is considered to have been a prison. This deep black hole was perhaps used to compel submission from recalcitrant taxpayers. The present occupier of these historic buildings is Mr. John Patturson, a member of the Danish Parliament, who enjoys hereditary rights as manager of the agricultural farm of Kirkebo for the Danish Government, to whom the ecclesiastical properties have passed. He takes a keen and intelligent interest in his surroundings. In the ancient days of the bishopric there was a college here for the education of the priests of the islands, and it apparently continued to be so occupied until the Reformation (1538). An "evangelical bishopric" (Lutheran) was established in 1540, but the first bishop, Jens Gregersen Riber, left the islands in 1557, since when there has only been a provost residing in them, under at first the Bishop of Bergen (Norway), but from the beginning of the seventeenth century under the Bishop of Sjaelland (Denmark). But the provost does not nowadays reside at Kirkebo. The old church, however, built (in 1300 ?) before the cathedral was begun, has been restored, and still serves for Lutheran worship, the faith of the Faeroese. It is dedicated to the Virgin Mary, and is now the only church on the islands dating from the pre-Reformation period. On the shore are the foundations of an even older church. When the bishopric was abolished by Christian III. a "Latin school" was established in Thorshavn (first mentioned in 1547), in charge of the priest residing there, where a church was first built in 1609.

What a contrast a picture of the quiet removal of the lid of the casket by the Amtmand in this little room, with scarcely a dozen persons present, would present to one of the assembly 600 years ago of the half-heathen Vikings and their wild, warlike companions, to witness its entombment in the same stone, with all the impressive pomp of an ecclesiastical ceremony of the Roman Catholic Church. To-day scepticism as to the probability of finding interesting relics prevented a larger attendance.

Beneath the lid was found a small folded piece of hide, 4¾ inches long, 1 inch thick, with the sides sharply cut. Under this was a small packet, measuring less than 2 inches on each side, consisting of a material of a yellowish silky nature, tied in a knot in the centre and thus containing a smaller linen wrapped package. This piece of material when untied and spread out measured 19 inches by 4 inches. Under this wrapping, but outside of the smaller linen package, were found two distinctly separate small pieces of material: one of 1¼ inch long and ⅝ inch broad, with a green thread through it; within were two small splinters of wood; the other was a triangular piece of aded red material (resembling silk), 1 inch long and ½ inch broad, fastened by its own thread to an extremely narrow strip of cloth, which was 15 inches long. The inner linen-wrapped package next received attention, and was with the greatest care and caution, as, in fact, had been the case throughout, unfolded and untied, while an accurate record was being kept. Separately in one end, within a knot, was a small bone, or possibly two bones, lying in a brown, mould-like substance. But the centre of the linen strip had another knot, within which, when untied, were found seven small packages, to each one of which was attached a narrow strip of hide. One of these seven packages was opened, and contained a diminutive splint of wood. The others were left unopened. The piece of linen was 11¼ inches long and 6¾ inches broad, with a narrow seam on each side but not on the ends, which appear to have been partly cut and partly torn from the original piece of linen to which it had belonged. All that had been found within the stone, including the mould, was carefully packed and sealed. I understand they will probably be next submitted to experts for a thorough investigation, and, if possible, verification.

Some of the islanders, fearing they might lose their "treasure" if it left the country, begged that it might not be sent away. Their request was heeded, and the relics are again interred *in situ*, unexamined by any expert though writing could be traced on the parchments.

WEDNESBURY ELECTRICITY SUPPLY.

By F. J. Warden-Stevens, A.M.I.E.E., &c.

THE Wednesbury Corporation obtained a provisional order in 1899, an agreement having been previously entered into with the Midland Electric Power Company.

In accordance with this agreement the Corporation did not oppose the company's application for a provisional order to supply within the borough, on the understanding that in the event of the Corporation also applying subsequently for a provisional order the company would not offer opposition, the objects of the Power Company being rather to supply in bulk to large consumers, such as mines, extensive engineering and other works rather than to distribute electricity in detail to private consumers. The arrangement now is that the Corporation supplies electricity in detail to all consumers in Wednesbury, the company supplying the Corporation only in bulk.

The electricity is generated on the two-phase system at a pressure of 7,000 volts at the Power Company's station at Ocker Hill. It is then transmitted to the company's sub-station in Wednesbury, where it is transformed down to a pressure of 2,700 volts and again to 200 volts.

The supply is delivered at the company's sub-station to the Corporation's "receiving mains" on the two-phase system at a pressure of 200 volts. The Corporation's sub-station contains transforming plant to convert from two-phase to continuous current. After conversion, continuous current is supplied by feeding mains laid from the Corporation's sub-station to five feeding points which supply the distributing network of mains laid in about 3½ miles of the principal streets. Thus the Corporation's mains are complete in themselves, and are so arranged that at any future date they may be supplied from separate works should that become advisable later, whereas the two-phase supply would not be economical from a separate plant owing to the nature of the borough and the demand in Wednesbury. It may here be mentioned that both the two-phase and continuous current systems of distribution were very carefully considered, and, after taking all circumstances into consideration, the latter was decided upon notwithstanding the additional expenditure necessitated by the transforming plant.

A portion of the Corporation's land has been utilised as the site of the sub-station. The buildings consist of the following:—Generator-room and switch gallery, accumulator-room, workshop, office, test-room and stores. The three last named are connected to the main building by a corridor. The buildings are arranged so that they may be easily extended; in the case of the office, &c., building, provision has been made so that another floor can be added at any time with little or no alteration. The contractor for the main and office, &c., buildings was Mr. F. J. Smith, of Wednesbury.

The transforming plant includes two motor-generators manufactured by the Phœnix Dynamo Manufacturing Company, Ltd., of Bradford. These each consist of a two-phase induction motor direct coupled to a continuous-current generator capable of delivering a current of 300 amperes at a pressure of 250 volts. There are two special pillars which contain the starting-gear; these pillars are fixed adjoining the machines.

The battery of accumulators consists of 117 cells, each capable of delivering 325 amperes for three hours. The containing cases are constructed entirely of lead, the crate being in the form of an antimony ⊥ section frame burnt together and lined with 6 lbs. sheet lead at sides and 10 lbs. lead at bottom, and supported on a slate base. Each cell has twenty-seven plates, the positive plates being of the Planté type and the negative of the pasted type. The cells have been supplied and erected on heavy pitch-pine stands by the British Accumulator Company, Ltd., of Westminster.

There is a charge and discharge booster of the Highfield type manufactured by the British Westinghouse Company, Ltd. The booster dynamo is capable of a maximum back boost of 75 volts during charging of the battery, and is capable of keeping the pressure practically constant on charge or discharge automatically within a limit of 30 volts difference of battery and line voltage, under all conditions of load (up to 325 amperes) and battery voltage.

The exciter is direct coupled to the booster, and the machine may be driven by either a continuous-current motor of 30 h. p. or a two-phase motor of similar size. The continuous-current motor is connected to the booster through a clutch, and the two-phase motor is similarly connected to the continuous-current machine. These clutches enable the following arrangements of use:—(1) Two-phase motor driving continuous-current machine as a dynamo-booster disconnected; (2) two-phase machine driving booster through continuous-current shaft, the latter idle; (3) the same as (2), but continuous-current machine, being run as a generator as well; and (4) continuous-current machine only driving booster.

In addition a portable "milking" booster has been provided, consisting of a 200-volt two-phase motor coupled direct to a shunt dynamo capable of delivering 150 amperes at 6 volts. This plant is mounted on a truck for convenience in moving about the accumulator-room, to enable one or two cells to be charged as required.

The switchboard, which consists almost entirely of metal and marble, is arranged in a "bay" form, the central portion being reserved for the two-phase feeder gear and the continuous-current main ammeter, voltmeter and timepiece. On the left side of the bay the continuous-current feeder panels are fixed, and on the right the machine panels.

The switch gallery is raised about 1 foot from the floor level, and contains also the starting pillar of the booster. Behind the switchboard ample space has been allowed, which forms practically a separate small room, and contains, in addition to the switchboard connections, the main two-phase meters and the main continuous-current meter. The switchboard is arranged to control the following :—Duplicate two-phase "receiving" mains, three motors (two main and one booster), a spare panel being allowed for an additional machine, five continuous-current feeding cables, and two spare feeder panels, two main dynamos and two boosters on the continuous-current side, one spare panel being allowed for each. A system of subways leads from the switchboard to the machines, battery, &c., and to the street, for conveying the connecting cables. The switchboard was manufactured and erected by Mr. W. Sanders, of Wednesbury, the instruments being of the permanent magnet edgewise and sector types, and mostly by Nalder Bros. & Thompson.

The mains consist of two-phase twin concentric .3, .3 and .45 square inch lead-covered "receiving" cables (connecting the Corporation's sub-station with the Power Company's sub-station), concentric lead-covered continuous-current feeding cables, and single lead-covered cables for distributing mains. The distribution is carried out on the two-wire system, the pressure of supply being 230 volts. All cables are laid on the solid system, being supported on wooden bridges in wooden troughs, filled in solid with bitumen and protected by hard-burnt tiles. Generally where there are tramway lines and in important streets the distributing mains are laid on both sides of the roadway under the footpaths, but in the less important streets on one side of the road only. The cables were manufactured and laid by Messrs. W. T. Glover & Co., Ltd., and are of their well-known diatrine paper insulated type.

The contract for meters, &c., was divided, the electrolytic and motor meters, maximum-demand indicators, as well as the house service fuses and fuse-boards having been supplied by the Reason Manufacturing Co., Ltd., and the prepayment meters by the British Thomson-Houston Co.

The charges for the supply are as follows :—Lighting, 6*d.* and 2*d.* per unit on the maximum demand (one hour) system ; power, 3*d.* and 1½*d.* per unit, or a flat rate of 1½*d.* per unit in the daytime and 3*d.* during lighting hours.

An important point in connection with a distribution undertaking such as this is that there is no risk of excessive cost of production in the early years. The charge for electric power in bulk to the Corporation is 3*d.* for the first hour of maximum demand for each day and .825*d.* per unit for all further supply. The losses as regards inefficiency of transformation and losses in mains appear principally in units at the lower charge, and the losses in the accumulators are entirely low-rate units. The supply of electricity to each individual consumer is on the maximum-demand system, yet, owing to the diversity of the time of the maximum load, the total maximum load of the Corporation is less than the sum of each individual consumer's maximum demand during each quarter. Further, as the accumulators reduce the Corporation's maximum demand on the Power Company, the load is more even ; or, in other words, under the system of working, if the maximum load on the Corporation's sub-station is, say, 150 kilowatts, the demand by the Corporation on the company need only be 75 kilowatts, so again there is a large transfer of units from the 3*d.* to the .825*d.* rate, and the units lost in the battery are entirely at the low rate as before mentioned. Further, in an undertaking of this nature the increase in the Corporation's capital charges as the load increases will not be heavy.

A few figures as to the results of eighteen months' working may be of interest. The consumers number about ninety, and the connections have reached the equivalent of 5,258 8 c.p. lamps, including 28 h.p. in motors ; also 596 lamps of 8 c.p. equivalent have been applied for in addition, but have not so far been connected Various extensions of the mains have been carried out by the staff to cope with the demand which has arisen.

A noticeable point has been the even pressure which has been maintained, rendering the use of Nernst lamps very satisfactory. It would not otherwise have been possible to compete successfully with incandescent gas-lighting in the borough.

The technical negotiations with the Power Company were carried out by Mr. F. J. Warden-Stevens, A.M.I.M.E., A.M.I.E.E., of Westminster, who has acted as consulting engineer to the Corporation, and under his supervision the undertaking has been completed and operated. Mr. W. Fennell acted as assistant to the consulting engineer and Mr. T. H. M. Swinburne as clerk of works. The undertaking has been carried on for eighteen months under the instructions of the consulting engineer, and the position of resident engineer is held by Mr. W. Fennell.

It is to be noted that electricity has been introduced into the following public buildings :—Town hall, municipal offices, art gallery, public library and public baths, the arrangements having been planned and the work supervised by the consulting engineer.

THE COLONIES AND COLONIAL ARCHITECTURE.

If any apology were needed for making reference to the above subject at the present time, it would be found in the desire shown by the people of this country for a closer union with the inhabitants of the various Colonies, and which it is to be hoped the latter will reciprocate. Then, again, it may be urged that there is some justification for treating the subject, in view of the expectation that trade with the Colonies, or at least some of them, is likely to be increased at no distant period, with mutual advantage to all concerned.

In the limited space at our disposal it would be impossible to give anything like a survey of the whole of our Colonies, or enter into wearisome statistics of their imports and exports, nor is there any necessity for so doing, inasmuch as there are other sources of information which are available for those who desire to be thoroughly posted in the subject. Nevertheless, we have deemed it fit and expedient to give a cursory glance at the principal portions, and to illustrate a few of the typical buildings, in order to show that in colonial towns architecture is not neglected.

THE AUSTRALIAN COMMONWEALTH.

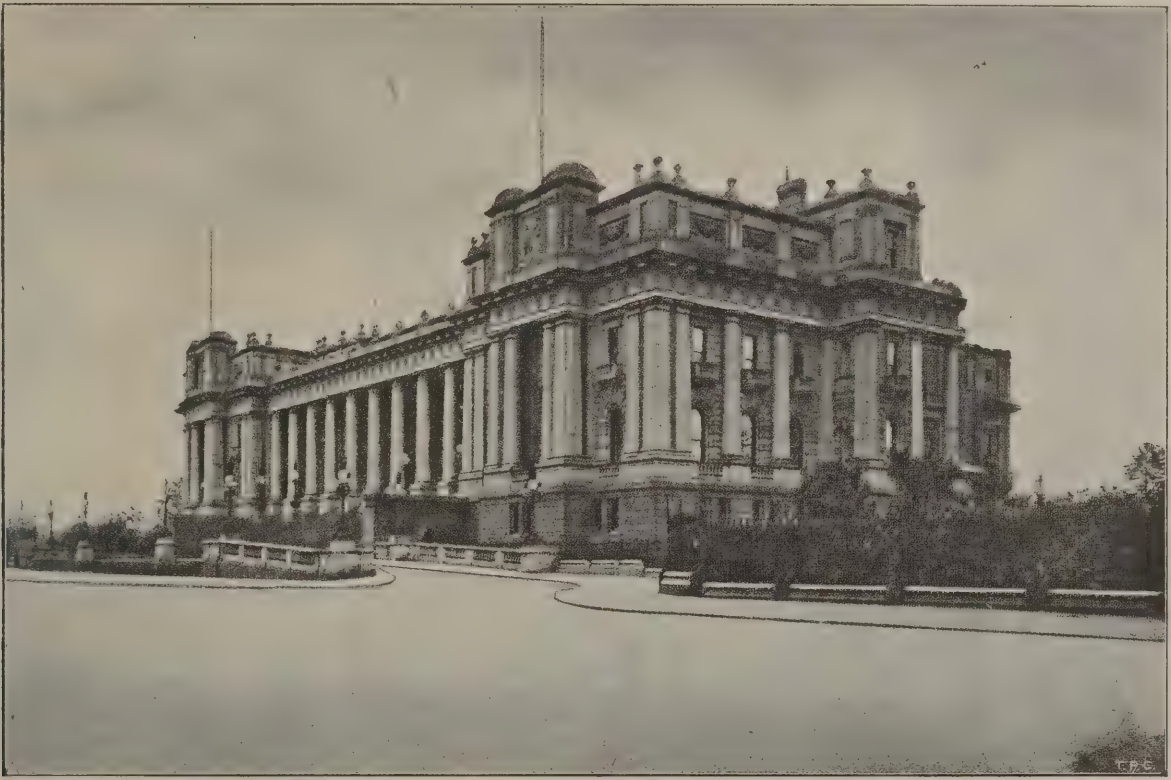
The Commonwealth of Australia, or the confederation of the six original States of New South Wales, Victoria, Queensland, South Australia, Tasmania and Western Australia—with which we propose first of all to briefly deal—has an area, it is estimated, of 2,972,575 square miles, and the population is about 4,000,000. The capitals, as is well known, are Melbourne, Sydney, Adelaide, Brisbane, Perth and Hobart. The township of Dalgety, New South Wales, however, is likely to be adopted as the site for the capital of the Commonwealth, but meanwhile the seat of Government remains at Melbourne.

VICTORIA.

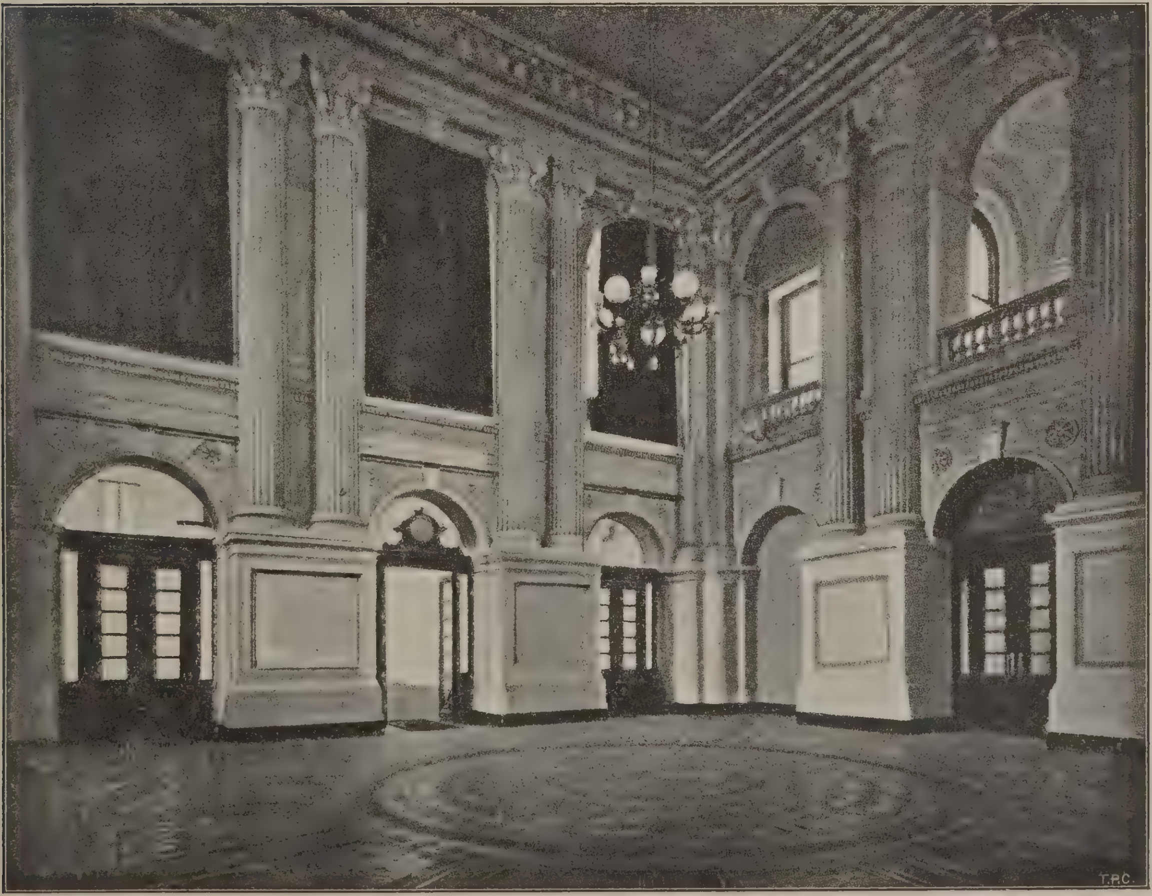
This colony, although the smallest, is one of the most prosperous of the various colonies situated in the Australian continent, of which it occupies the south-eastern portion. Well-favoured as it is in regard to the primary sources of production, the State has also for a number of years taken a lead in the direction of its manufactures. The policy of successive Governments during nearly half a century has been to foster manufacturing enterprise, and the result is that Victoria presents a remarkable instance of industrial progress for such a young country.

Melbourne is regarded as a beautiful capital, and it is also the most populous and important city in the southern hemisphere. It is laid out with wide and regular streets, and is well paved and lighted. Many of the buildings possess architectural merit. The cathedrals and churches, schools, Parliament House, Treasury, town hall, post office, law courts, Custom house, university, museum, free library, national gallery, clubs, theatres, and other public institutions are worthy of admiration.

The most important building in the city is the fine group of the Houses of Parliament. In November 1881 we were enabled to publish the original drawings. Mr. Peter Kerr, the architect, who happily is still active although he has retired from practice, is a native of Aberdeen. He was born in that city in 1820, and became a pupil of Archibald Simpson, who enjoyed a considerable practice. Then he acted as an assistant to George Fowler Jones. He afterwards joined the staff of Sir Charles Barry and prepared some of the working drawings of the Houses of Parliament. One of Barry's principal clients was the Duke of Sutherland, and Mr. Kerr superintended works at Cliveden, Dunrobin Castle and Trentham—the last being the mansion which the present duke has made over to Staffordshire for an industrial college. Mr. Kerr emigrated to Australia in 1852, and became a member of the firm of Messrs. Knight, Kemp & Kerr, architects, of Melbourne. When designs for the Houses of Parliament were sought in competition the firm's design was successful. For over half a century Mr. Kerr has been connected with the legislative palace. He was appointed sole architect by a commission in 1877. In the



MELBOURNE HOUSES OF PARLIAMENT—EXTERIOR.



MELBOURNE HOUSES OF PARLIAMENT—ENTRANCE VESTIBULE.

course of so long a period several alterations have been made and the building may now be considered as an architectural triumph.

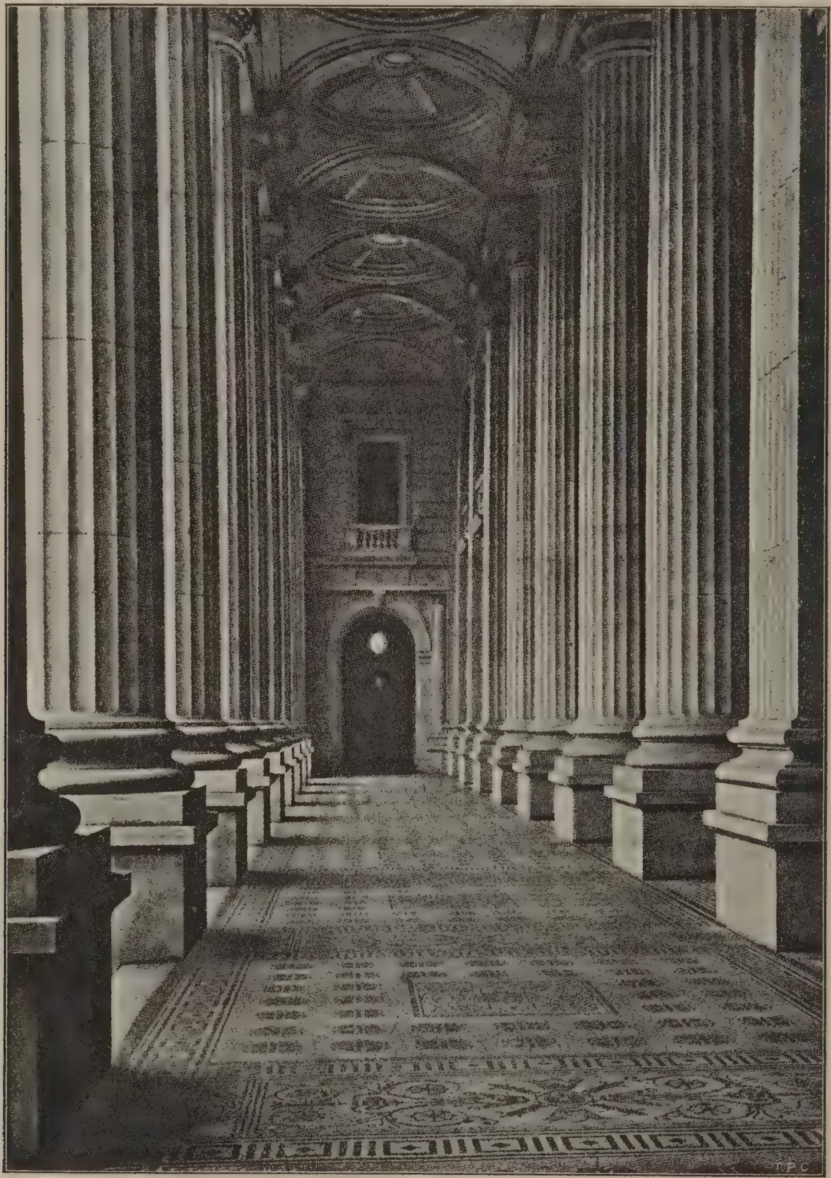
It will be seen that a Classic treatment was adopted, and indeed, no other was to be expected from a Scottish architect who had worked under Barry. The plan is compact. Roman Doric is used for the substructure. The four façades have fluted columns and pilasters, plain moulded bases and moulded and enriched capitals, standing on panelled and moulded pedestals 4 feet 6 inches high, with plinths and caps and balustrades between, crowned with mutular entablature, having triglyphs and enriched metopes; the windows in the first range have alternately raised rusticated piers, with plinths and caps, enriched archivolts and rusticated vermiculated voussoirs, the key voussoir of each supporting an enriched semi-projecting bottom, which sustains the balconettes of the upper windows. The windows in the second range have square heads, with pilasters, architraves, trusses and mutular entablatures, and balconettes having pedestals with plinths and caps, and, segmental on plan, balustrades.

Generally the west façade, facing Spring Street, consists of a grand portico with wings on each side, the projecting centre inter-columniations having grouped columns and pilasters. The architectural features of the rear façades, or east front, and the north and south façades are similar to those of the west, except that they have colonnades on the principal floor, recessed from the general face line of the building, with balconies over.

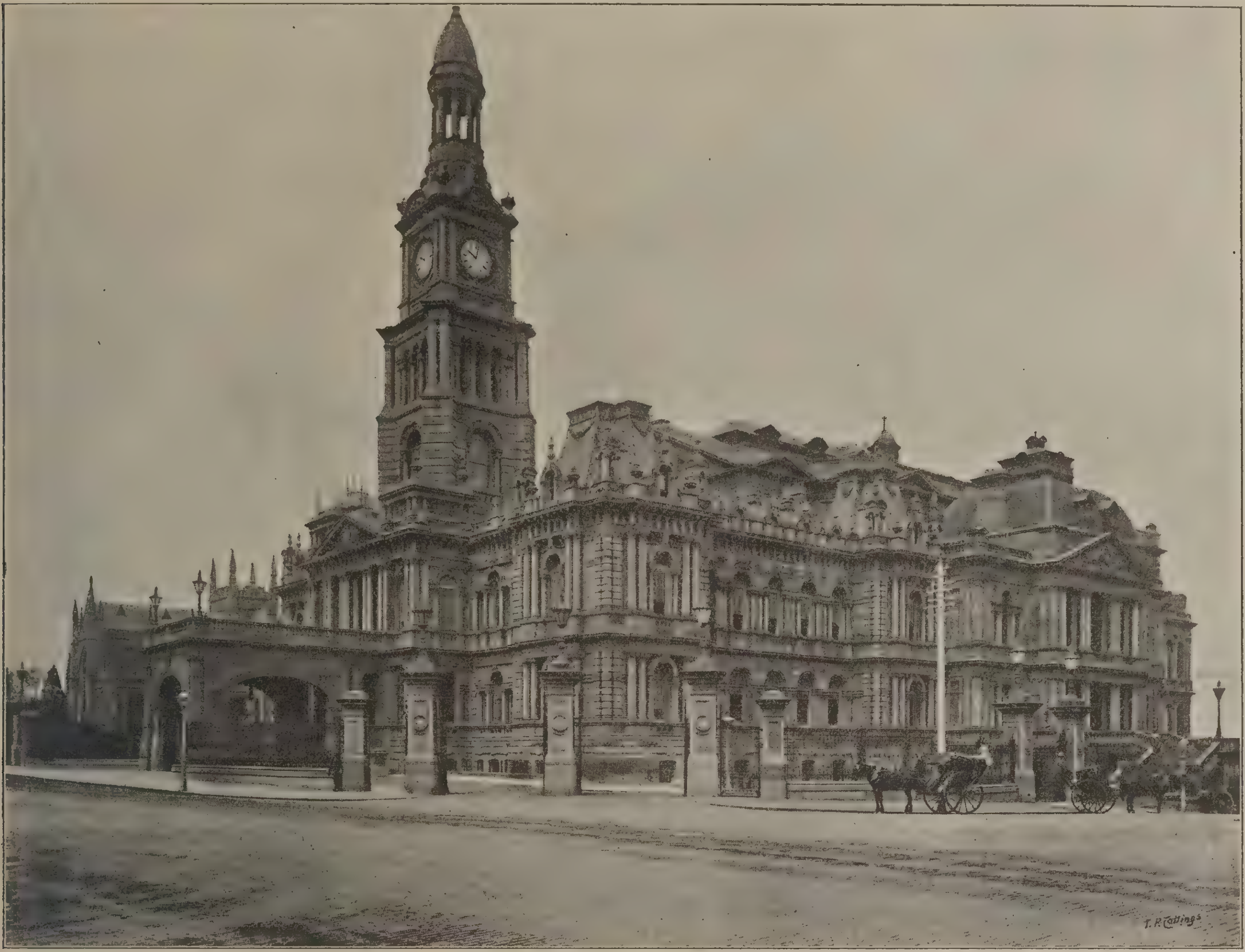
One important feature of the building, *i.e.* the dome, has yet to be erected, and wanting it the structure, as a composition, is necessarily incomplete. The massive columns in the entrance vestibule may now seem to be excessive in dimensions, for the height of the ceiling is no more than 45 feet. When the tower and dome are built, however, the interior will be about 140 feet high, and the vestibule columns will then be in proportion to the parts above it. The illustrations are taken from the Journal of the Royal Victorian Institute of Architects and were photographed by Mr. J. H. Harvey, architect.

Ballarat, the second city in the colony, aptly bears the title of the Golden City, and Anthony Trollope said with justice of it that it struck him with more surprise than any city in Australia, that "in point of architectural excellence and general civilised city comfort, it is certainly the metropolis of the Australian goldfields." The principal buildings are the city hall, post office, Mechanics' Institute, banks, theatre, hospital and several large churches. Costly memorials are to be seen of Robert Burns, Bourke, Wills, Thomas Moore and Her late Majesty the Queen. At the Botanical Gardens there is a fine collection of Carrara marble statuary, including the "Flight from Pompeii." Ballarat, in fact, is noted for its sculpture, as well as for its pictures and other art treasures.

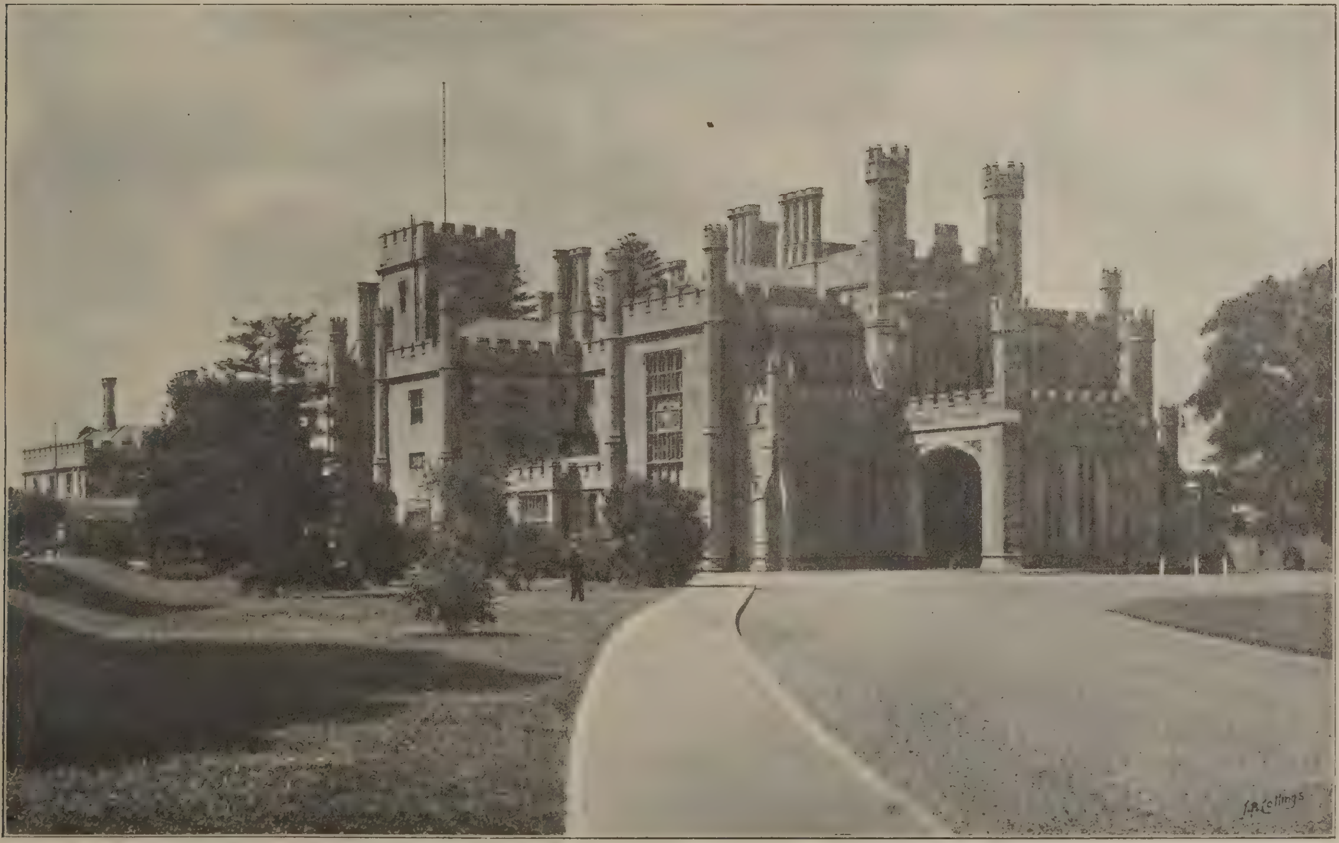
Geelong ranks fourth among the cities of Victoria, and is picturesquely situated on Corio Bay. The public institutions are numerous, and include the Geelong College. The Geelong Free Library and Museum is located in a handsome building, originally built by the Chamber of Commerce at a cost of 11,000*l*. Bendigo is a little over 100 miles from



MELBOURNE HOUSES OF PARLIAMENT—COLONNADE.



THE TOWN HALL, SYDNEY.



RESIDENCE OF THE GOVERNOR-GENERAL, SYDNEY (AUSTRALIAN COMMONWEALTH).

Melbourne, and the most prominent buildings are the post office, the masonic hall, the town hall and hospital, together with a very fine theatre.

The hard woods of Victoria are becoming known beyond Australia, and for wood paving or heavy constructive works, where durability in water or wet ground is required, they cannot, it is claimed, be surpassed. For wood paving, the red gum, blue gum, iron bark, box and grey gum are of the highest value and importance. In the city of Melbourne all the woods named have been in use in the main streets and have given satisfaction. For railway sleepers these woods have also stood all tests. In addition there are other eucalypts well adapted for cabinetwork and commercial purposes.

School of Arts, Bundaberg.

The Museum, Brisbane.

Custom House, Brisbane.

Post Office and Telegraph Office, Brisbane.

NEW SOUTH WALES.

The total area of this colony is estimated at 310,700 square miles, or a little over two and a half times the size of Great Britain and Ireland, while its length from Point Danger on the north to Cape Howe on the south is 680 miles, and its breadth from east to west is 760 miles. Sydney, the chief city and capital, stands on the shore of Port Jackson, surrounded by fine scenery. Among the noticeable public buildings is the General Post Office, which is mainly built of Hawkesbury sandstone; the great pillars supporting the long colonnade are of polished granite. From the centre rises a clock-tower, the loftiest in Sydney. Then there are the massive buildings of the Victoria markets, 610 feet long by 100 feet wide. Standing side by side are the town hall and Anglican cathedral. The style of architecture of the town hall is sometimes regarded as too florid. Its principal chamber has seating accommodation for at least 5,000 people. The cathedral is, of course, a Gothic structure. At the intersection of Bridge Street is the Exchange, which is another example of the use of that sandstone to which the architectural beauty of the city owes so much. From Hunter Street to King Street there is a range of lofty buildings, one of the most effective being the offices of the Mutual Insurance of New York, which, like the Equitable Life Insurance buildings in George Street, testify to the suitability of the native syenite for grand architectural effect. Then there is the building erected for the Lands Department, while further along are the offices of the

Colonial Secretary and the Minister for Public Works, besides the Treasury. Among other important buildings may be mentioned St. Mary's Cathedral, which is regarded as the noblest specimen of ecclesiastical architecture in Sydney. The residence of the Governor-General is described as of the Elizabethan or Tudor period, of fair elevation (being 41 feet high), and surmounted by a number of turrets and tall chimneys. A lofty portico gives access to the front. The halls and state rooms are spacious, and are suitably decorated.

New South Wales is rich in timber. An authority expresses the opinion that it is one of the most richly endowed countries in the world, and the report of the Royal Commission on Forestry in Victoria, which includes an account of the forestry resources of other States of Australia, states:—"While the forest area of Western Australia greatly exceeds that of New South Wales, the latter probably possesses a greater variety of trees of commercial value than any other State of the group." It is estimated that the forest area of New South Wales comprises 20,000,000 acres, of which up to the present 7,503,200 acres have been reserved for forestry purposes.

QUEENSLAND.

A country of vast extent, thoroughly explored, but only sufficiently developed to reveal the immensity of its latent resources, is an interesting study. Queensland has arrived at that stage, and, viewing what has already been accomplished by one of the youngest of the British Colonies, some are sanguine enough to believe in its ultimately outstripping all the rest in material prosperity. In every direction we gather that there are signs of activity and progress. Looking, for instance, at the miles of streets in Brisbane, the gardens and recreation grounds, the churches, hotels and public buildings, it is difficult indeed to realise that the single life of many an individual spans the interval between a primeval condition and the present scene of bustling interest. Nor are evidences wanting that the refinements of life have not been neglected in the race for wealth, as witness the pretty homes that dot the suburbs, with all their amenities. A noble bridge spans the river and bars the further advance of ocean vessels, although small steamers follow the winding reaches for 40 miles further to the town of Ipswich.

Unlike the southern States of New South Wales and Victoria, whose commerce passes almost exclusively through a single port, Queensland's coast line of 2,500 miles presents a number of harbours which have become the sites of important towns. Going north from Brisbane, the most important ports of call are Maryborough, with its timber, saw-milling and foundry industries; Bundaberg, whose prosperity is largely due to the sugar production of its neighbourhood; Gladstone, with its meat-preserving works, the outlet, too, of numerous small goldfields; Rockhampton, the principal port of Central Queensland; Mackay; Bowen, with its beautiful harbour; Townsville, the leading port of North Queensland; and further north, Ingham, Cardwell, Cairns, Port Douglas and Cooktown.

The area of Queensland is 668,497 square miles, and but little over half a million of people occupy this vast territory. Although the inhabitants are comparatively few in numbers, it is admitted that they have made a splendid record.

THE UNITED SERVICE CLUB.

THERE is so much severity about the exterior of the United Service Club, which Thackeray called the "Martium," it is not generally recognised that John Nash was the designer. It was opened in 1828, and was one of several which were erected about the same time. The Athenæum, by Decimus Burton, formed the pendant to it, and Barry soon afterwards erected the Travellers' Clubhouse and the Reform Club. Owing, we suppose, to official regulations there was a general agreement between them. Two storeys and a basement were reckoned to be sufficient. Land at the time was far less expensive than it is at present, and the clubhouses were able to be extended to a great depth. In the United Service Club the principal rooms are lighted by windows on the western side. At one time it was considered that Nash had produced the most commodious club in London.

It would be strange, however, if a building, which is so closely connected with the Army and the Navy, did not reveal shortcomings when compared with later buildings of the same class. Just as in the Services there was indifference to reform, the clubhouse until recently caused inconvenience to the members, but which they were unwilling to remedy. At last changes could not be avoided, and the commission to improve the building was given to Messrs. Isaacs & Florence. Under their direction works have been executed by Messrs. Aldin, Bros. & Davies, of South Kensington, the contract amount being 15,000*l.*, but which will probably be exceeded. As every architect and builder is aware, the carrying out of work in such a building as a clubhouse is necessarily costly. The entire premises cannot be surrendered at once. The men have often to work in closets and small rooms where their action is restrained. Care has to be taken too to avoid injury to whatever is permitted to remain, and that is another obstacle to freedom of action. The whole of the work has in this instance been performed in a manner which must be deemed creditable to all concerned in it.

When the Pall Mall clubhouses were erected, it was considered indispensable to introduce an imposing staircase. That for the United Service Club is not visible from Pall Mall. It is characteristic of the members that it has to be approached by an indirect route, where strangers can be challenged and prevented from further advance, if necessary. On reaching it the inner hall is found to be capacious. If Nash had employed a more massive balustrading instead of light rails the appearance would be enhanced. The architects by improving the lighting have increased its interest and utility. A great lantern has been constructed, with window openings at the sides. The ceiling is decorated in delicate colours with graceful ornament. It is not often that so much architectural treatment is to be found in connection with upper lights. All walls have been painted in subdued colours. In the rooms, as well as the staircase, quiet tones have been adopted. This is peculiarly advantageous in the United Service Club. There are a great many paintings —although not always originals—of full-length figures of British officers, which give character to the building by expressing its connection with the Services. These paintings gain by the contrast offered between the brilliant colours and the quiet surface of the wall, the latter furthermore affording a desirable repose to the eye. Some additions were made to the club in 1859, and it is now difficult to increase the size. The architects have contrived to add to the dimensions of the smoking-room, which will be appreciated by the members who congregate there.

The basement has been completely transformed. In the early Pall Mall clubhouses the lower part was thought to be a part which it was wise to exclude from view, and for that purpose a massive wall was erected. The basement in the United Service Club is not revealed to the public gaze, but it is no longer a dark region. Light has been obtained by means of an inner court. The walls are glazed with tiles by Messrs. Doulton & Co., which are of a light and soft yellow colour, with the result that the lower part of the building is as well illuminated as any of the great rooms. No part of the works will cause as much surprise to the members as those in the basement. A large portion has been arranged as lavatories, dressing and bedrooms, with the latest appliances of Messrs. George Jennings, Ltd. The kitchen and domestic offices have been altered and improved, and the heating and cooking apparatus of Messrs. J. Slater introduced. What will prove a great convenience is the electric passenger lift from the basement to the first floor, which has been supplied by the Otis Elevator Company. In connection with the kitchen is a buffet in the coffee-room formed in a recess, and therefore not diminishing in any way the original area. A new drainage system has been introduced under the direction of Messrs. Shone & Ault.

The works were carried out for Messrs. Aldin Bros. & Davies under the supervision of Mr. Leslie Shingleton, their manager, with Mr. Robinson as general foreman. Mr. Sutton, as clerk of works, has watched the interests of the United Service Club.

TESSERÆ.

Mediæval Shrines.

IN Mediæval periods the shrines of saints were sometimes monumental structures, standing detached and complete in themselves, and sometimes they were enclosed within or actually formed the body of the altars—often the splendid high altar of the church built in honour of the saintly personage. Very few examples of either kind of these shrines have come down to us in their original unaltered state. The influx of wealth from devout worshippers, and the never-ceasing desire to do greater honour to the saint, in nine cases out of ten caused the primitive structures to be remodelled, added to and embellished, or even reconstructed from age to age, on scales of ever-increasing magnificence. Thus the earlier or primitive receptacles provided for the remains were more often than not, in the long run, discarded. Stone and marble were replaced by bronze, silver and gold, florid metalwork, marble inlays, mosaics, gems and enamels. In this country we have two ancient detached shrines of great archæological interest, viz. King Edward the Confessor's shrine in Westminster Abbey and the shrine of St. Amphibalus at St. Albans. Of the one paramount structure of this kind which once adorned this country, the shrine of St. Thomas at Canterbury, the wonderful description is all that remains to us.

Colour Decoration.

It has been argued that there are two schools of colourists. First, that of harmonious contrast; second, that of melodious intervals; but melody appears to be the proper manner of arranging harmonious colours, in the same way that harmonious notes are uninteresting till a melody is composed. Melody in one colour is to some extent similar to playing on one note. This being the case, how is it that so many apparently inharmonious compositions have been successful? There are many reasons, mostly unrecognised or unthought of. Many rooms have been decorated entirely in dull greens or blue greens, but contiguous rooms may be in hues of yellows and browns, consequently the two apartments together would be harmonious, separately, melodious; indeed, our colour appreciation would be momentarily increased on passing from one room to the other. Then furniture and art objects generally bring in some contrasting colours. The chief cause, however, is due to the low key in which the large surfaces were coloured, the actual amount of pure colour being very small, the greater portion being grey, in which the three primaries are present in harmonious proportion. It is seldom, perhaps never, that the three primary colours are absent in decoration, taken as a whole, and including carpets, furniture, everything. All in the room, and all that can be viewed out of the room, must be taken account of, as also the amount of light received into it and the colour of that light. A room decorated in melodious tones of reds, in which no opposite colours were permitted, having a large window looking out upon a green lawn, might be strictly harmonious in daylight, though at night, when the green was shut out, the impression would doubtless be hot and oppressive.

GENERAL.

The King of Spain has conferred the Commandership of the Royal Order of Isabella the Catholic upon Mr. William Rome, F.S.A., of Creeksea Place, Essex. Mr. Rome was chairman of the committee which organised the exhibition of Spanish art held at the Guildhall in 1901.

A Committee of American architects has been formed to report on a national school of architecture. The chairman is Mr. Walter Cook, and among the members are Professor Des Pradelles, Mr. Trowbridge, Mr. Carrere, Mr. Lloyd Warren and Mr. Whitney Warren.

The Sculpture Galleries in Aberdeen, which were opened in April last, have been visited by about 300,000 people up to November 30. The expenditure has exceeded the income by 452*l.*

An Effort is being made in Edinburgh to raise 1,500*l.* to pay for a cast in bronze of the "Physical Energy" of the late G. F. Watts and erect it in a prominent position in the city.

Lord Iveagh has disposed of to the Government, on favourable terms, the lands on the north side of the river Liffey near Dublin, known as the Long Meadows. The acquirement was arranged in order to preserve the view from Phœnix Park.

Mr. H. O. Wills has presented to Bristol "The Guards' Cheer," by Professor Herkomer, now on loan at the Bristol Art Gallery.

The Watts Exhibition was opened in the gallery of the Royal Hibernian Academy, Dublin, on Monday, by Lord Drogheda. It will be kept open for at least one month.

Mr. Harrison Weir, who was the Landseer of illustrated literature, died on Wednesday night at his residence, Poplar Hall, Appledore, Kent, in his eighty-first year.

Mr. George Clausen will begin his lectures at the Royal Academy on Monday next. Mr. T. G. Jackson's course on "Reason in Architecture" will commence on February 5.

An Exhibition of pictures by the Glasgow school has been held at Buffalo, U.S.A. Twenty-five of the seventy-seven exhibits which were for sale found buyers. Seven were bought in for the permanent collection of the Fine Arts Academy.

The Late Mr. H. C. Richards, K.C., M.P., bequeathed a sum of 5,000*l.* to the Dean and Chapter of St. Paul's for rebuilding and sustentation of St. Paul's Cross.

The Will of Mr. Henry Hugh Armstead, R.A., the sculptor, has been proved at 14,602*l.*

Mr. F. Simmonds, deputy-surveyor of Windsor parks and woods, for nearly thirty years' service has been decorated by the King with the Fourth Class of the Royal Victorian Order on his retirement. Prince Christian handed him the Order at Cumberland Lodge before a large gathering, and also presented him with a cheque for 500*l.*, and an illuminated address from the residents on the royal estate.

The Building and Sites Sub-Committee of the Farnworth education authority have invited Messrs. Brown & Dutch (Manchester), Messrs. Henderson & Brown (Bolton), Messrs. Ormrod & Pomeroy (Bolton), and Mr. J. T. Proffitt (Farnworth) to submit sketch plans for a new school in Plodder Lane to accommodate six hundred children. The school is to be built in two storeys, on the central hall system, and to be of Accrington brick on the outside, and, whilst being complete, to be so planned as to admit of future extension providing increased accommodation.

The Quantity Surveyors' Association.—The adjourned discussion upon Mr. F. B. Hollis's paper, "Some Thoughts on the Quantity Surveyor, and his Relation to the Building Owner, the Architect and the Builder," will take place on Wednesday, January 17, at the "Chinese Room," Holborn Restaurant, at 7 P.M.

The Exhibition of the International Society of Sculptors, Painters and Gravers opens in the New Gallery, Regent Street, on January 8. The president, M. Rodin, will exhibit his "Le Baiser" and a smaller work, "Paolo and Francesca." M. Bartholomé sends an heroic Adam and Eve. The executors of the late Constantin Meunier, the Belgian sculptor, who was an honorary member of the Society, send some twenty works, including his series of reliefs and figures glorifying labour; and Mr. Paul Bartlett, the American sculptor, will contribute a large group of his bronzes.

The Manchester Incorporated Law Association propose to forward to the Lord Chancellor a memorial as to the Manchester and Salford County Court. They ask:—That the County Courts of Lancashire holden at Manchester and Salford may be combined and become one court. That new County Court buildings suitable for the requirements of the combined courts may be erected upon the site of the existing County Court of Manchester in Quay Street, Manchester, or upon some other suitable site equally convenient to Manchester and Salford. That the existing County Court buildings in Encombe Place, Salford, which are wholly unsuitable for the purposes of a County Court, may cease to be used for that purpose.

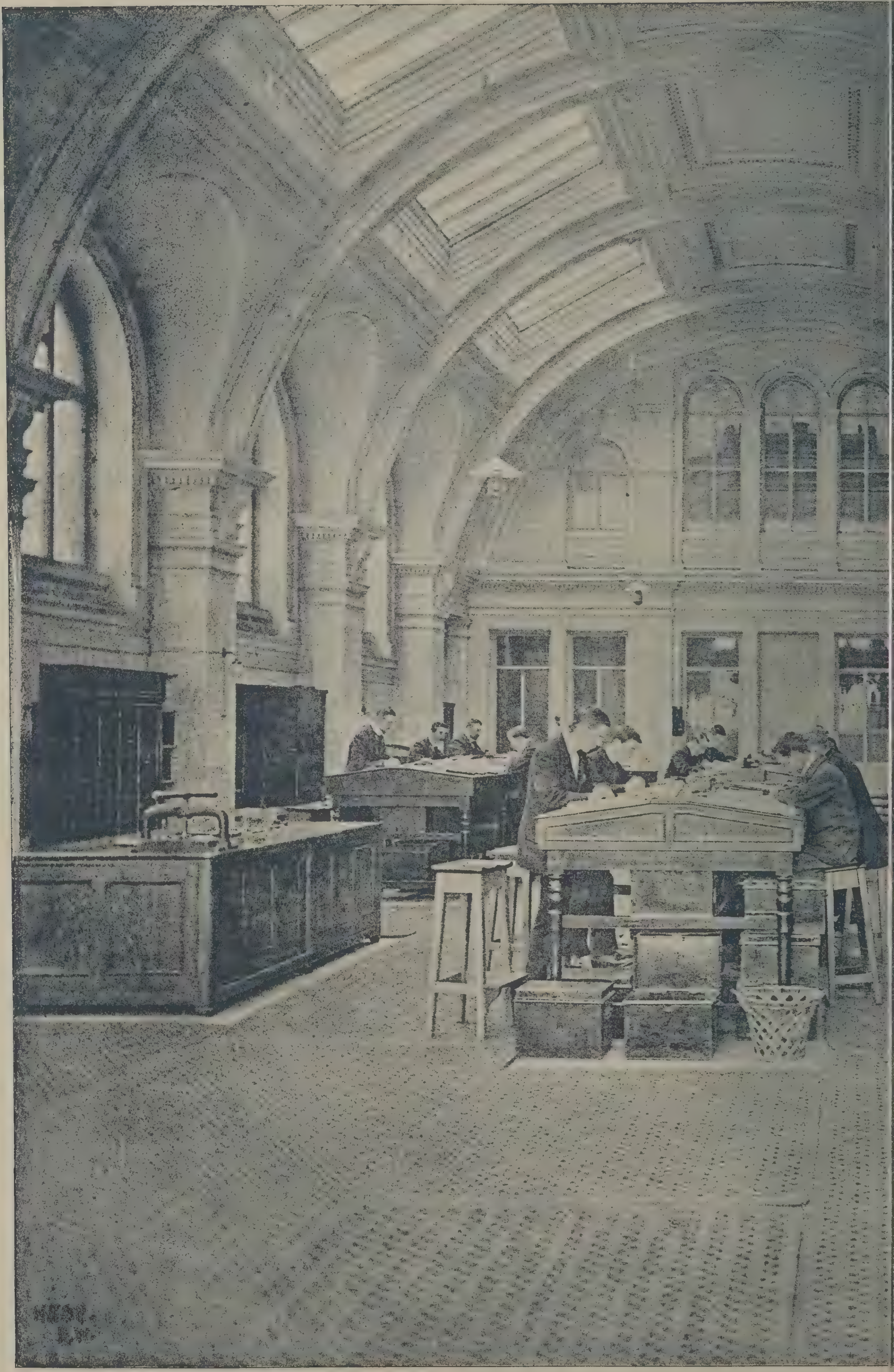
An International Exhibition of Photography will be held in Paris in July at the Grand Palais des Beaux-Arts.

The Egyptian Gallery at the British Museum is in process of rearrangement. It is believed that a sectional catalogue dealing with this gallery is in course of production.

Mr. W. H. R. Crabtree, borough surveyor of Doncaster, died last week at the age of forty-eight. He was the son of Mr. William Crabtree, for many years borough surveyor of Southport, and was brought up in his father's office. In 1879 he became connected with the late Mr. Mansergh, and under his direction helped to carry out many important works, including sewerage and water schemes at Sherburn, Bethesda and Withington, and the Rotherham waterworks. Seventeen years ago he was appointed borough surveyor of Doncaster, and has carried out many important undertakings. A few days before his death he had completed plans for carrying out three important schemes—the erection of schools in Chequer Lane, of a higher municipal school and a model lodging-house, involving an expenditure of over 50,000*l.*

The Essex County Council on Tuesday approved of the purchase of a site at Colchester, to cost 10,650*l.*, for the erection of a lunatic asylum.

The Architect of "Courtbrac," published on the 22nd ult., is Mr. W. B. Stonebridge.



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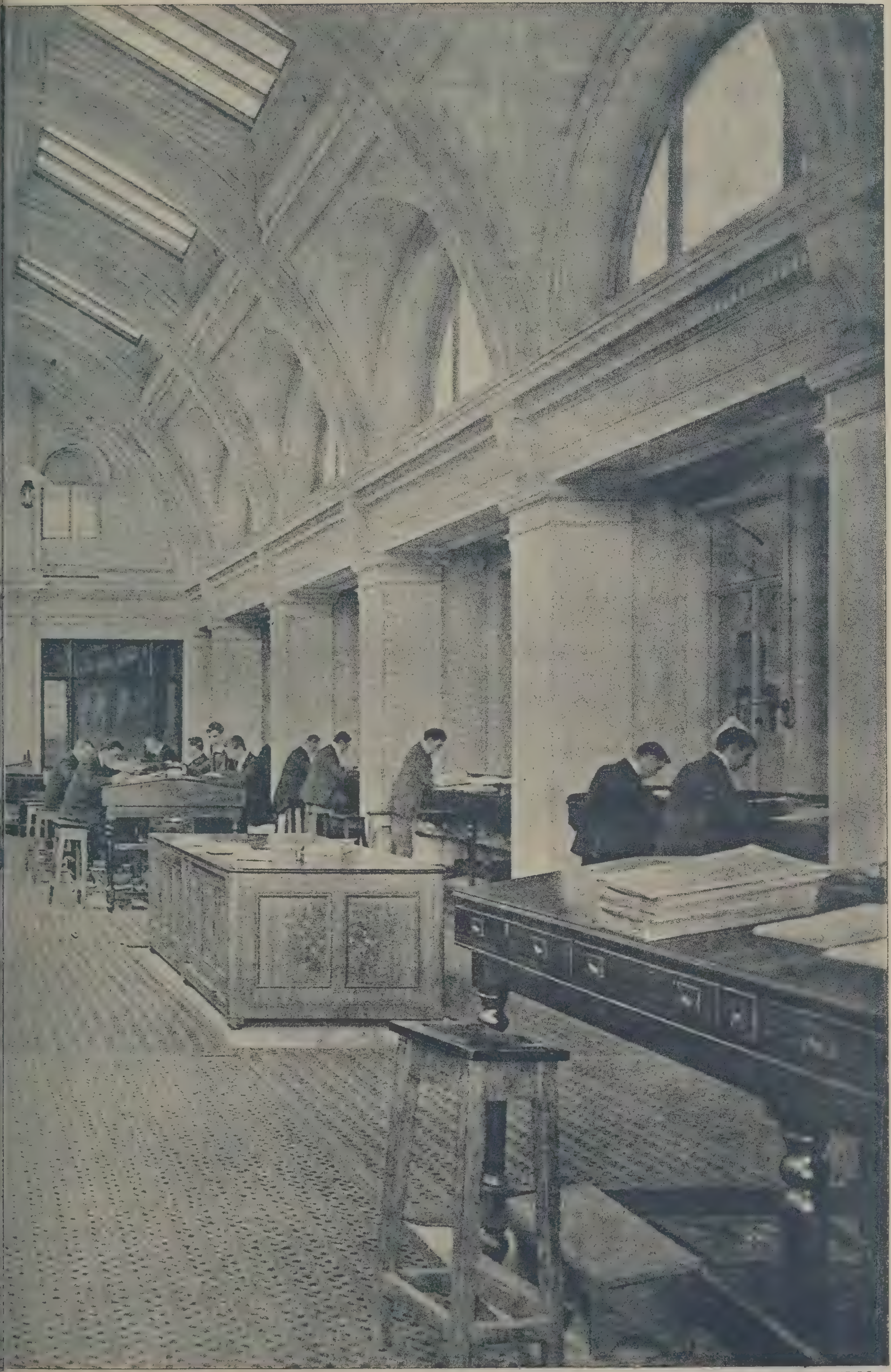

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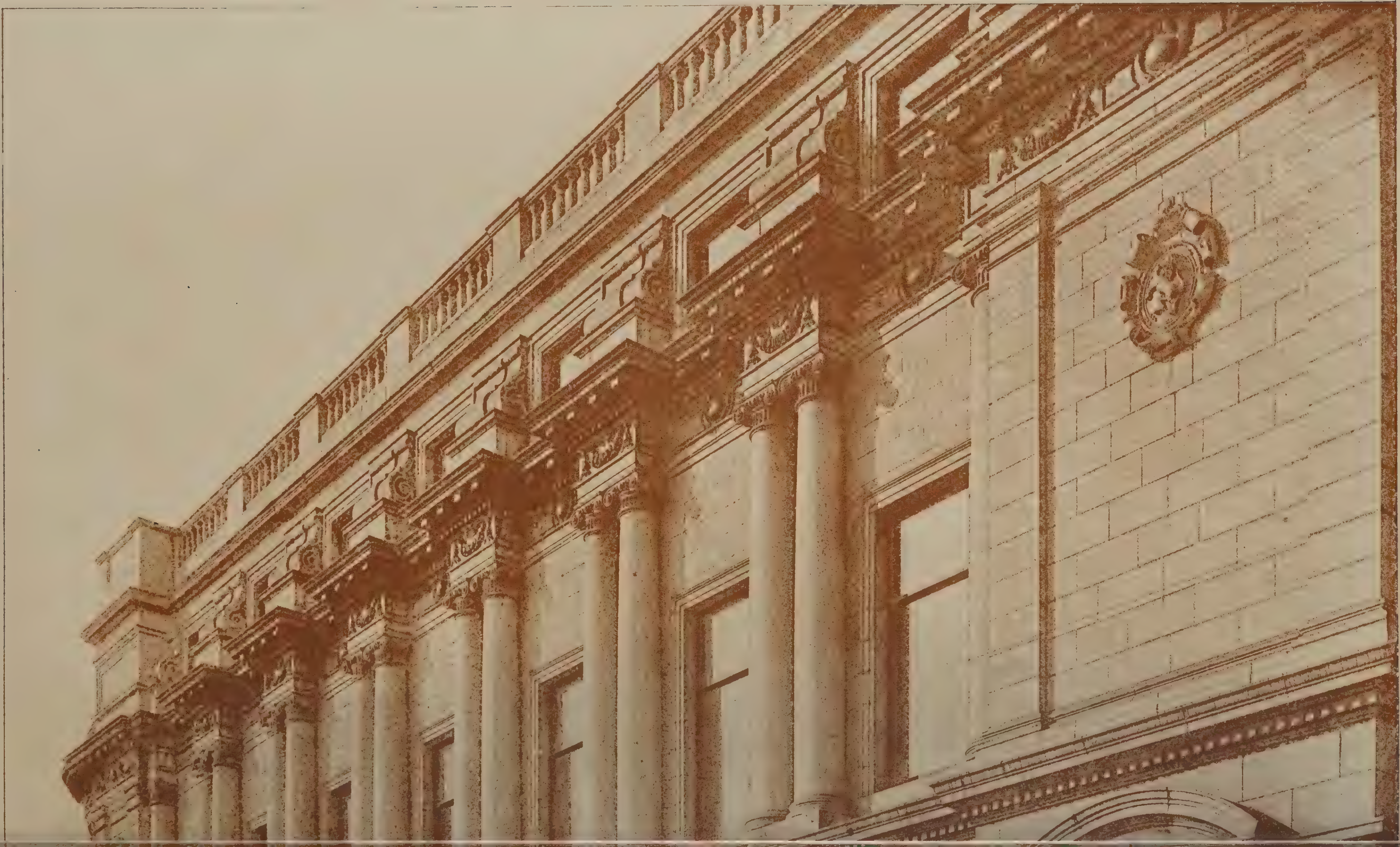
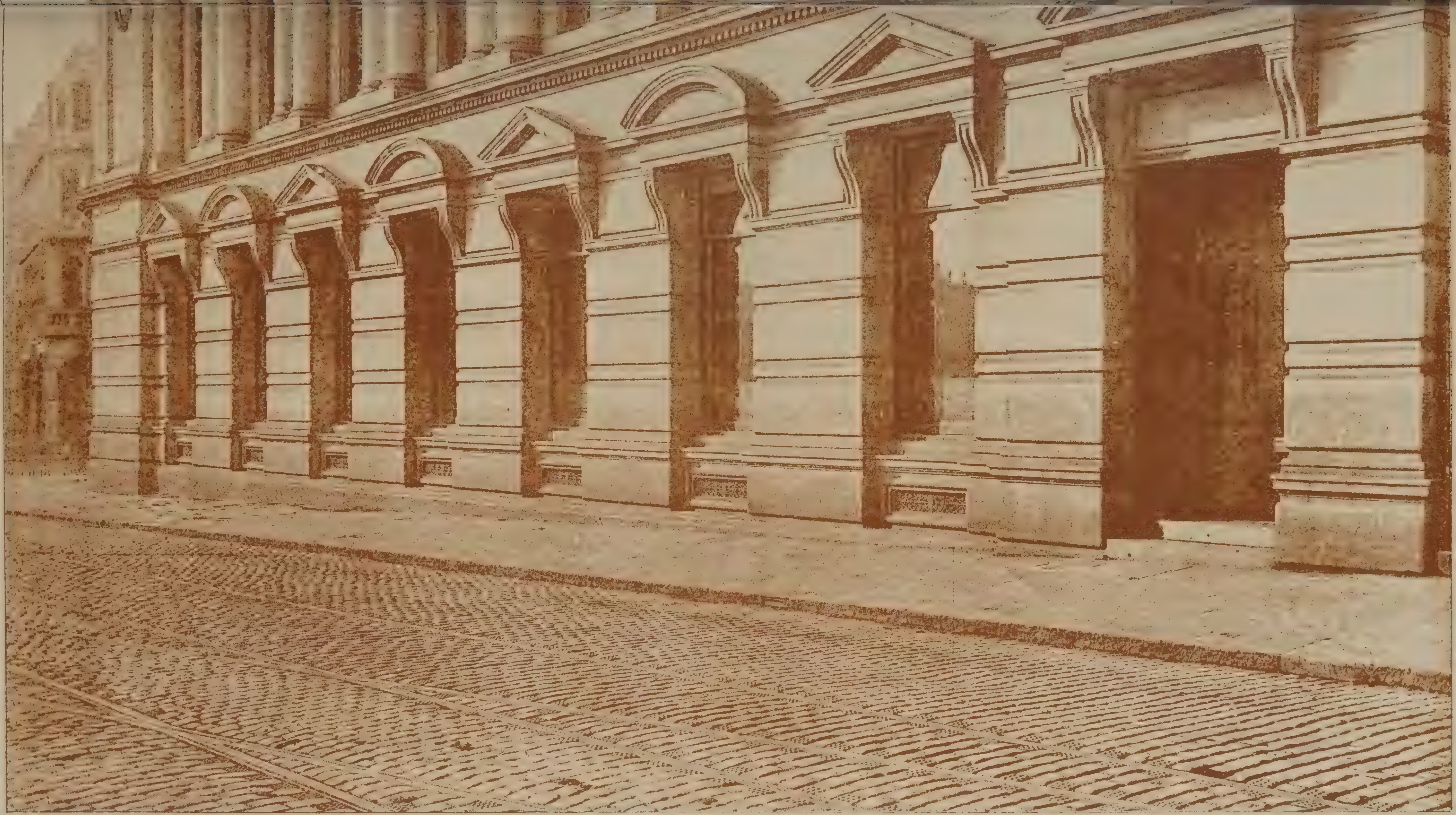
BELFAST: INTERIOR VIEW OF COUNTING-HOUSE.

A., Architect.

OF THE
UNIVERSITY OF ILLINOIS





Northern Assurance Office, Aberdeen.

Messrs A. M. MACKENZIE A.R.S.A., & SON, Architects

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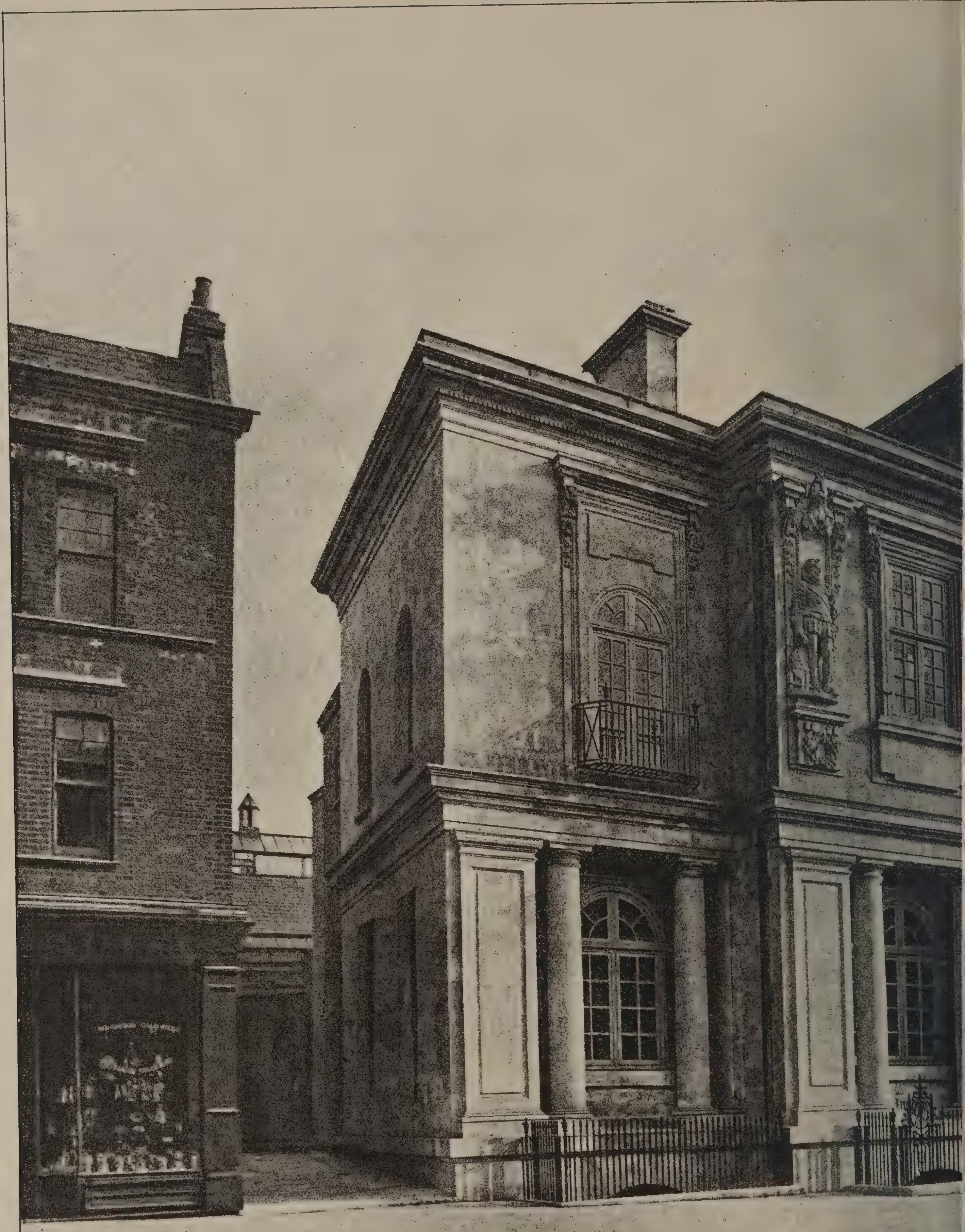

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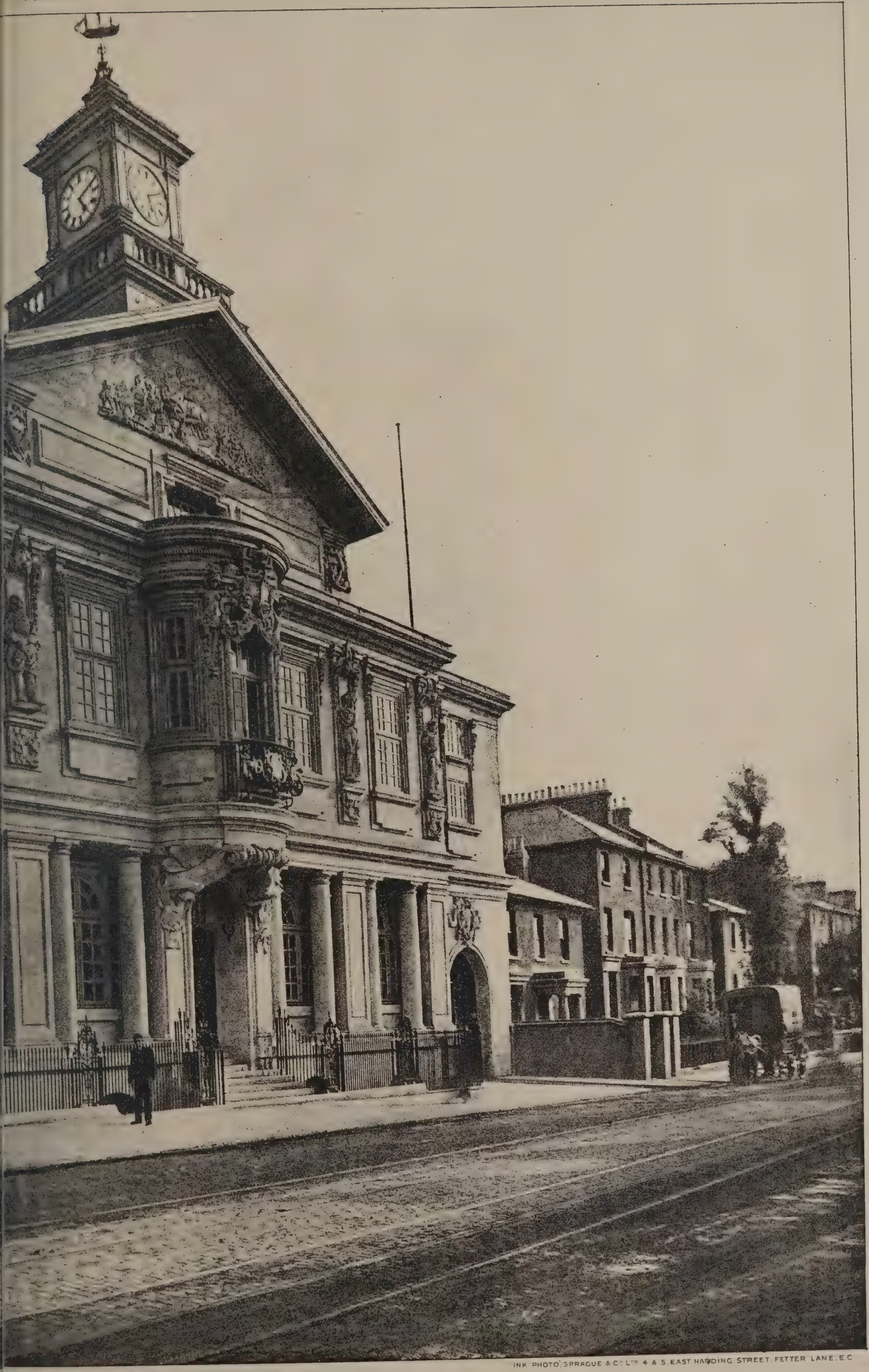

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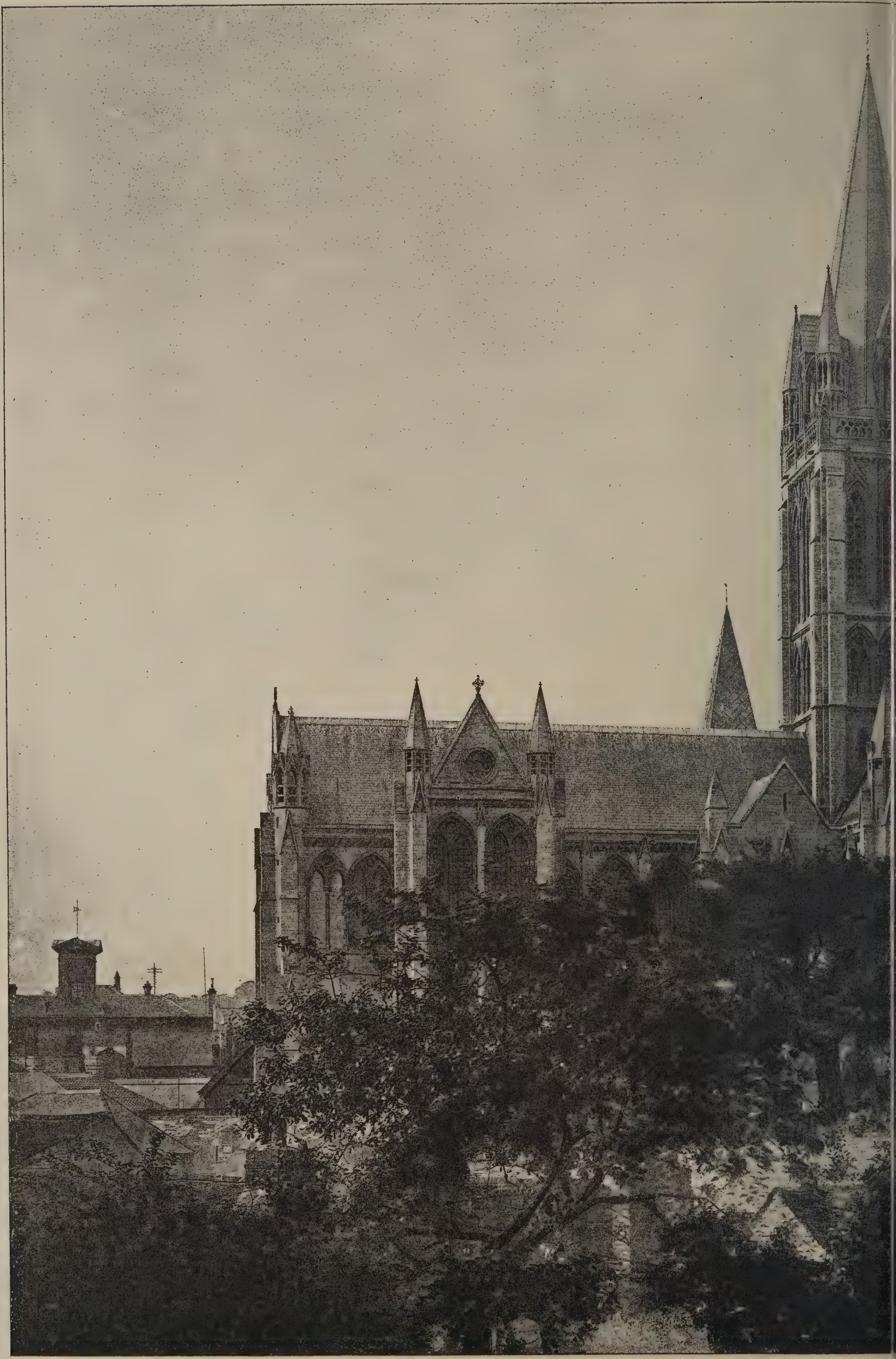
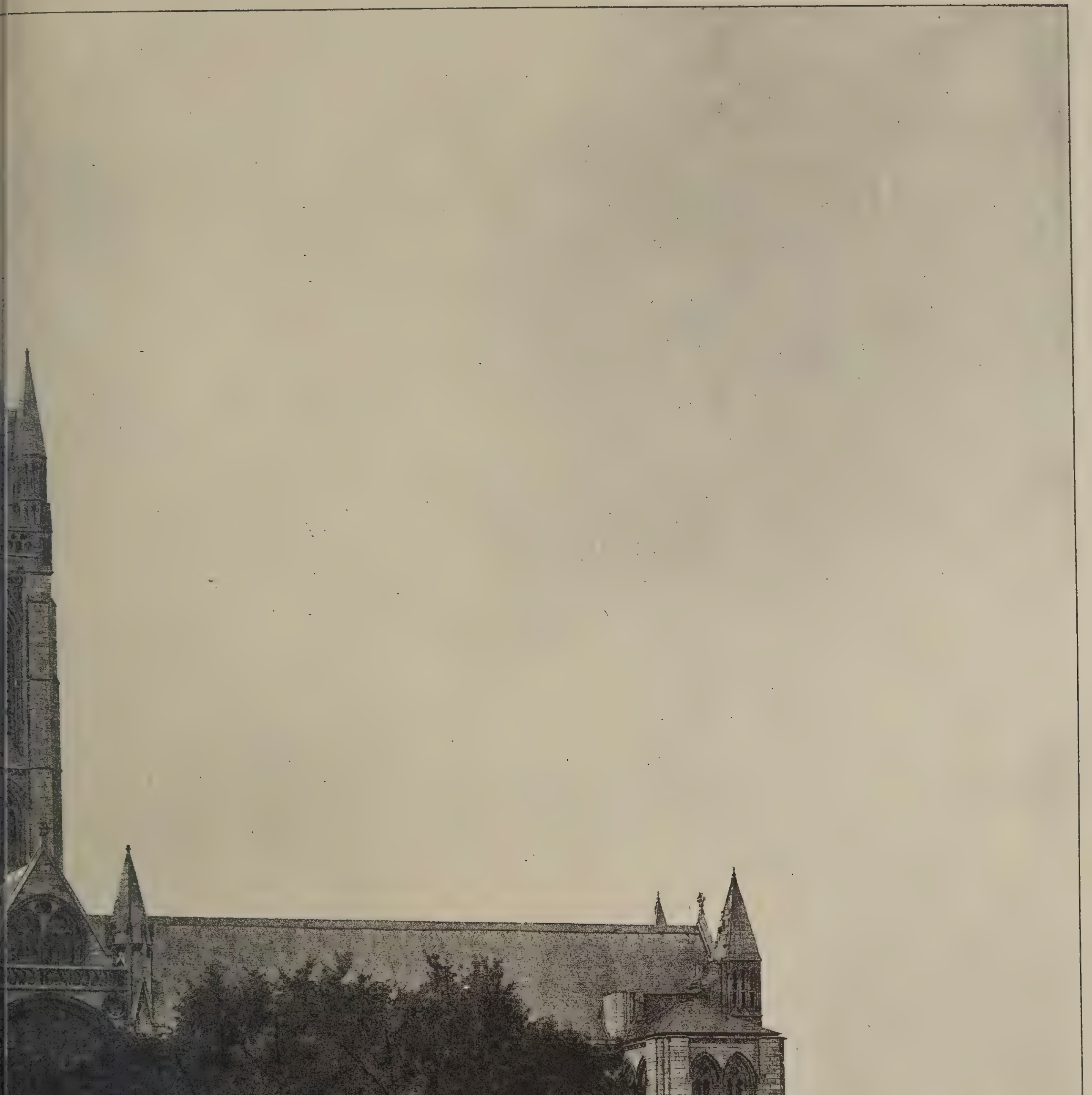
WN HALL.

RICKARDS, Architects.



CATHEDRAL SERIES, No. 548.—

The late J. L.



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RO: VIEW OF THE NORTH SIDE.

RSON, R.A., Architect.

The Architect.

THE WEEK.

Members of the Architectural Association will no doubt be pleased at the election of Mr. F. W. Pomeroy as an Associate of the Royal Academy on Monday. He was the teacher of modelling, and although only a limited number of students joined his class, that was not owing to any indifference on his part. He is one of the products of the Lambeth School of Art, which might be considered as a nursery for Royal Academicians. He gained the Gold Medal and Travelling Studentship of the Academy twenty years ago, and he has been fortunate in obtaining commissions for statues for public places. His *Nymph of Loch Awe* was purchased out of the Chantrey Fund. Mr. Edward Stott, the painter, has during the last dozen years lived at Amberley, in Sussex, and his paintings of the district and its inhabitants have secured for him a distinct position among painters. He studied in Paris, and traces of French influence will be observed in his work. Engraving has not of late years received its due recognition in the Academy, and there is no doubt this indifference has had a depressing effect upon the art. It is, therefore, satisfactory to find that Mr. Frank Short has been elected an Associate-engraver. He has adopted a wide range, and in each variety he has succeeded. His plates have been more appreciated abroad than in this country. Mr. William Strang, who was likewise successful at the election on Monday, is known as an inventive and powerful etcher. He is indifferent to prettiness, but his portraits are among the best of their class, and will bear comparison with those of Vandyke. Mr. S. J. Solomon, whose paintings are usually among the attractions of Academy exhibitions, although sometimes in unsuitable positions, has attained the rank of Academician, a distinction which is well deserved. The election of Josef Israels as an Honorary Foreign Academician has been too long delayed, and cannot give much pleasure to so old an artist. Many Dutch painters have represented humble life before him, but none of them with so much sympathy and reverence. The work of Mr. Saint-Gaudens, the other foreign member, is much admired in America, yet his preference to M. Rodin is difficult to understand.

It is not wise to suggest to Frenchmen that the law of change not only operates on all things, but now works with unprecedented activity. Statues when once erected were accepted as immobile. Their inauguration was therefore always an important affair, for something was being set up which was believed to be enduring. In modern times a different practice has been followed. After a great deal of diplomacy between committees and authorities, a site is obtained in a public place, a pedestal is constructed, a statue is placed on it, a crowd of people assemble, orations are delivered and there is mutual congratulation. But if somebody who is interested in the subject could not attend the ceremony which was described at great length in the newspapers should go to the place a few days afterwards in order to gaze on the memorial, he is likely to find neither pedestal nor statue. Adverse critics explain on such an occasion that the statue was ashamed of the exposure and ran away. A statue of poor Camille Desmoulins, the Revolutionary journalist, was recently placed in the garden of the Palais Royal, where he used to harangue the people. On the day following the inauguration there was no sign of it. Another instance was the memorial of George Sand in the garden of the Luxembourg. A stranger may now in vain seek it. It appears that the reason given in several cases is that what was erected was incomplete. But then the question arises, Why should so much fuss be made over a plaster cast? Apparently it is supposed that the assembling of a crowd, speeches from notabilities, journalistic descriptions and illustrations help to increase the funds, which at the time are insufficient to pay for the block of marble or the casting in bronze. Parisians must, however, in time grow tired of such a system.

It is difficult at the present time to believe that art ever received countenance in Russia. But the life of Leo Lagorio who lately died reveals that artistic talent of that kind receives encouragement. He was born in 1826, and in his youth attracted attention by the drawings he made at school. The Governor of the State felt it was his duty to bring him to St. Petersburg, where he was immediately received into the Imperial Academy of Art. He gained annually medals and other rewards, and in 1852 was awarded the great gold medal. That entitled him to travel at the expense of the Government beyond the limits of Russia. Naturally his goal was Italy, but as a landscapist he was eager to visit the wild scenery of the Caucasus before proceeding to the south. He was enabled to remain eight years in Italy. Then he returned to the Caucasus and witnessed some of the contests which took place in the discontented districts. Afterwards he set up his studio at St. Petersburg. He was able to visit from time to time various parts of Eastern Europe and Asia, and he received numerous official commissions. His paintings of scenes in the Crimea and on the shore of the Black Sea were considered to be most successful. Of late years he suffered from weakness and could only paint with difficulty.

The fate of the "Auld Brig" at Ayr seems to be as far from settlement as ever. It will be remembered that the Town Council could obtain a bequest of 10,000*l.* for the rebuilding of the bridge. After a long inquiry restoration was preferred to rebuilding. But in December 1903 counsel expressed the opinion "that under no circumstances can the bequest be used for mere repairs. Rebuilding, which may be in whole or in part, is, we believe, the only object to which the memorialists are entitled to apply the bequest." The Council simply resolved to take down the bridge, to mark all the stones and to rebuild it, using as many of the old stones as was possible. There was a movement against that proposal, for it was considered that the bridge could be preserved without demolition and rebuilding. A committee of gentlemen who took interest in the structure proposed that there should be some compromise with the heirs-at-law of Mr. Templeton who made the bequest. Counsel were again consulted, and their opinion was considered at a meeting on Monday last. They recommended that a private Bill should be introduced to obtain power to enter into such a compromise, as a more preferable course to petitioning the Scottish courts for the desired authority. The Council are divided about the advantage of the proposal, and it was decided to hold a conference between the works committee and representatives of the advocates for the preservation of the ancient bridge. For a time at least subscriptions towards the expenses are not to be sought, and the bequest cannot be utilised without a special Act. The reparation of the "Auld Brig" is therefore a question for the future rather than for the present year.

The record of the meetings and excursions of the Upper Norwood Athenæum during 1905 has been published under the editorship of Mr. T. Pitt, F.C.S. The majority of the papers relate to places in the vicinity of London, and there is no exhausting their interest; but the members have ventured further afield, for Stratford-on-Avon is fully described. The volumes form a valuable series, and contain the pith of many larger works. The Society is conducted on economical principles, for the annual subscription is only 10*s.* 6*d.*, with an entrance fee of the same amount. Pleasant and intellectual entertainment is insured in return.

THE CHARING CROSS ROOF.

AFTER a short deliberation on Monday the coroner's jury, who were inquiring into the cause of the catastrophe at Charing Cross, through which six men were killed on December 5, brought in the following verdict:—"We find that the cause of death was accidental; that the cause of the accident was the breaking of a tie-rod through an unforeseen flaw, and attach no blame to the company's officials. The jury wish to express great sympathy with all concerned in this calamity." No other conclusion could be come to after hearing the evidence of the engineers and other witnesses. The "unforeseen flaw" probably dated from the time when the material used in the tie-rod was piled or forged. It would therefore have been unjust to hold any of the officials of the railway responsible for the defect of an ironmaster. It is easy for people to imagine that the entire roof is in a defective condition, and its removal is to a great extent a concession to clamour and the apprehensions of neurotic people. But the evidence showed that the cause of the accident could not have been obviated by any painting, for it was of a kind that was invisible.

It is generally admitted that flaws can arise in cast-iron. Many cases have occurred which proved that, in spite of great care in the manufacture, air-holes or similar defects originated either when the metal was in a molten state or during the process of cooling. The late Professor Sorby devised an electrical apparatus which, he maintained, could detect flaws in cast-iron. He considered that it would supersede the unscientific method of tapping with a hammer, which is still in use, and which, like the majority of empiric processes, is not always trustworthy. Sorby's apparatus did not, however, find favour with engineers, and it cannot be said that any means has been invented to discover concealed or internal defects in either cast or wrought-iron.

Fortunately the defects rarely cause such a disaster as occurred in the Charing Cross terminus. Cast-iron is not utilised in construction to the extent that belongs to so useful a material, and wrought-iron is now superseded by steel. With steel it would not be necessary to unite the different parts of the fatal tie-rod by welding, and on that account there need not be much alarm about the safety of modern roofs. If steel is deemed to be an unsuitable material for roofs, it should also be prohibited from employment in connection with any structure where life can be lost through a defect in the material. Do passengers in steamers used for pleasure excursions ever consider the thickness of the material which is between them and death? The plates of a vessel like those of a structure on land are liable to rust, and the strains to which they are subjected are only assumed. It is an old maxim that a chain is not stronger than its weakest link, and few are able to calculate the force of the tugging on the links of a cable when the colossal mass of a vessel, aided by the force of wind and waves, is exerted to break the connection between the ship and the anchor. There is no doubt danger in steel beams, for there is a possibility of failure in nearly everything made by human hands. If we cannot use metal in roofing, beams and columns, then it would only be reasonable to abandon its use where the risks are greater and return to wooden boats and hemp cables. Peace may have its victories as well as war, but it has also its casualties, and they seem to be as unavoidable in cities and towns as on the battlefield.

The Charing Cross bridge was erected some forty years ago under the direction of Sir John Hawkshaw, who was a very cautious engineer. Sir John Wolfe Barry, who gave evidence on Monday, was as a pupil-assistant engaged in the erection of the roof, and was therefore aware of the tests employed. He stated that one of the principals was placed on a timber scaffold for the purpose of testing, and that pig-iron to the extent of 105 tons was suspended from the structure. The load was not merely distributed, but was applied unequally. Every deflection was noted. The principal was said to have borne the test remarkably well. It was probable that a special test was also applied to the tie-rods. The iron used was from Lord Dudley's works, and Messrs. Cochrane, who constructed the roof as well as the bridge over the Thames, were contractors who had gained the confidence of civil engineers by the excellence of their work. All that could be done by skill and prudence to make the roof safe was adopted.

It has been agreed that the cause of the accident was the unforeseen flaw in the tie-rod, and that it arose from imperfect welding. Sir Benjamin Baker admitted that when he first saw the fracture he was unable to form a conclusion about the cause of its rupture. The strain was not more than a third of the breaking weight. On further examination it was found that the tie-rods, which varied from $4\frac{3}{8}$ inches to 5 inches in diameter—the broken one being $4\frac{1}{2}$ inches—were made up out of no less than eight bars welded together. With such a pile two short bars might be interposed, and as they could not be closely united from the ends there would necessarily be a flaw. There is no doubt that it arose in the making and was not caused by any strain after its erection in the roof, although unquestionably that strain must have increased the extent of the flaw until it became not less than two-thirds the area of the rod. Painting would not have prevented the evil, for although the rod lost about the eighth of an inch through rusting, that was an insignificant depreciation, for it was only $\frac{1}{36}$ of the diameter. In modern practice two tie-rods would be used with such a roof, and failure would therefore be avoided.

It was made evident that the tie-rod did not suffer from rusting. According to Mr. Tempest, the chief engineer of the railway, the only part of the roof which showed signs of rust was the underside of the glazing bars and the intermediate rafters. Sir Benjamin Baker in discussing the subject said that an indefinite life could be given to iron. The danger in railway stations arose from the gases of locomotives and the inability to make the paint adhere. He described the anchorage chains of the Menai Bridge which was built by Telford eighty years ago, and said he had expected they would be oxidised, but on removing the paint he found the original blue scale and marks of the blacksmith's hammer. He considered that the Charing Cross roof had only lost about 6 per cent. of its original strength in about forty years.

Whether the wall was a factor in the catastrophe will be determined in the Law Courts, assuming the action taken by the lessee of the Avenue Theatre will not be settled. Mr. Tempest stated that after an examination of the viaduct on which the wall was built he could discern no cracks or settlement of any kind. But he admitted that if there had been a slight yielding of the wall the flawed tie-rod would be subjected to additional strain. Sir John Wolfe Barry said that the wall was never intended to support the roof in case of a failure of a tie-rod. If all the parts acted properly one of the principals, according to Sir Benjamin Baker, could have been loaded with railway carriages without any collapse. The span was 164 feet, and there were fourteen main principals which were about 35 feet apart.

The report of the Board of Trade officers has yet to appear. But it is not likely that their examination will add to our knowledge of the subject. There does not appear to have been any deterioration beyond the wear and tear which was to be anticipated in so exposed a situation. The loss of life is to be regretted, but in the carrying out of the reparation and glazing it cannot be alleged that the contractors and their men were careless. An inspector said that he considered there was a little more material on the roof at the time of the collapse than was necessary for the work. But with principals that were tested up to 105 tons, a "little more" of such materials as were being used could not affect its strength.

The inquiry has localised the cause of the catastrophe, and in that way has demonstrated that the reliance upon the strength of iron construction was not unfounded. The ironworkers no doubt believe that when the whole of the bars were fused by great heat and under enormous pressure into a homogeneous mass, the want of connection between two of the bars was of no account. In fact, the defective weld could only be discovered by brightening the metal and holding it in the light at a particular angle. That is a discovery which is not of so much account now that iron is superseded. But it will, of course, be taken as a lesson by steel manufacturers to have a more rigorous supervision of all parts of the process. With the exception of that defect the whole roof was in a sound state and could have lasted for several years. Indeed, it might be supposed that one of the results of the periodic examinations was to increase the confidence of the engineers, although it cannot be said that any painting or rapping of the tie-rod would have averted the catastrophe.

THE INTERNATIONAL SOCIETY'S EXHIBITION.

IT is rarely we find so much importance attached to sculpture as we see in the sixth exhibition of the International Society of Sculptors, Painters and Gravers at the New Gallery. The central hall is well adapted for the display of the art, and this year it may be said to be improved by the introduction of a soft canvas hanging which obviates the clashing of marble against marble. M. RODIN is the president of the Society, and two of his works have been contributed. The principal is *Le Baiser*. Presumably M. RODIN believes in the ancient theory, legend or myth that a figure is concealed within a block of marble. By the mass of rough stone which he retains he appears to suggest that he has been no more than a discoverer and revealer. The action of the nude woman, whose arm is round the man's neck, is passionate, and the figure, although not completely extricated from the marble, is graceful. The man, however, is to some extent passive, and the hands are very awkward. The *Paolo and Francesca* is a smaller group, and in this case also the left arm is ungraceful. The figures seem to be recumbent, the woman being above. But this is a suggestion of their whirling in the Inferno. The two works by M. BARTHOLOMÉ are disappointing. His splendid effort to suggest the mystery of death which is to be seen in Père la Chaise has made many an architect wish he had the sculptor's services at command. But for his *Adam and Eve* he has adopted types unnecessarily ugly, as if he wished to indicate that masculine and feminine beauty were the results of long years of evolution. His *Jeune fille se coiffant* is a statuette, and she may be using a stream for a mirror.

All things considered, the most interesting works this year are the panels in relief and figures by CONSTANTIN MEUNIER, the Belgian sculptor. During many a century the representation of mere labourers was avoided by sculptors. When there was a change agricultural labourers were preferred. MEUNIER was not afraid to adopt men who had to follow the varieties of toil which are most exacting on the muscles—miners, puddlers, quay porters, sailors and glass-blowers. They at once rivet the attention, as they are placed opposite the entrance, and the visitor will be wise who returns to them again and again from other rooms. They are not graceful, idyllic or superfine men. There is no suggestion of the *Apollo Belvedere* amongst them. Yet MICHEL ANGELO would have rejoiced at such a display of muscle. The sculptor was no sentimentalist, and he makes little attempt to excite the pity of the observer for the labourer. The men have to do hard work, but it must be felt that their frames are equal to the strain. Those who compare MEUNIER and MILLET do not understand either artist, and we cannot help feeling that the brawny Belgians would be insulted if they were said to resemble the pessimistic peasants of France. Mr. PAUL BARTLETT'S bronzes and torsos of girls are suggestive of his studies in a good school. The gloom of BEETHOVEN has been often expressed by painters and sculptors, but never in so strange a manner as by M. BOURDELLE.

The English sculptors hold their own in the assemblage. The *Orpheus* of Mr. BENJAMIN CLEMENS attracts more attention by the small dragon or giant lizard at the base than by the excellent nude figure. Mr. H. WILSON has a *Pietà* in high relief for the private chapel at Welbeck Abbey. Mr. STIRLING LEE has had to take to portraiture, but *Mrs. George Brown* and *Tommie* are two busts revealing unusual skill. Mr. ALFRED DRURY has a rather stern head for his statue of *St. George*, and a beautiful head of a woman called *The Spirit of the Night*.

There are nearly 200 oil-paintings by English and foreign artists. M. RAFFAËLLI has a vigorous view of Notre-Dame de Paris, which is no doubt produced by the aid of his new colours. HANS VON BARTELS, of Munich, in his *Flemish Inn*, suggests a day when the trees are bent by the wind and the sky full of heavy clouds. It is unpicturesque, but it is expressive of time and place. Mr. TARBELL'S *People at Breakfast*, which is lent by the Pennsylvania Academy, is one of those scenes of which the meaning is not apparent. A woman in evening dress seems to have found her way into a large room and is sitting down with a man who shares a roll with her. Very different is the banquet introduced by M. GASTON LA TOUCHE in *Le Mariage de Riquet à la Houppe*, which is one of the most brilliant pictures in the South Room. M. A. BESNARD'S paintings are more remarkable for their clouds than for their figures.

In the West Room Herr WENDLING, in his *News from Sea*, which belongs to the National Gallery at Berlin, reveals the care taken by some foreign artists in their works. The room is lofty, and everything is in the position that would increase the effect. The woman in it is reading aloud to a man in red seated at the entrance. Looked at as an instance of stage management the picture deserves some commendation, but the scene does not excite any interest. JOSEF ISRAËLS is usually fascinated by any subject which affords an opportunity for contrast of light and shade. But his *Indoors and Outdoors*, which represents a child standing in a doorway, was perhaps intended to suggest an hour when the contrast was less marked than at other times. Mr. JOHN LAVERY has a vigorous portrait of the *Bishop of Birmingham*, who appears in a purple cassock. The *Ladies Evelyn and Nora Hely-Hutchinson* offer a very strong contrast of dark blue and white in the dresses, and it becomes more marked by the absence of any accessory which would diversify the severity. Sir JAMES GUTHRIE'S presentation portrait of the *Marquis of Tullibardine* as commander of the Scottish Horse is a good example of that class of portrait which is intended for an heirloom. Mr. LAMBERT'S *Alethea* is clad in a black dress showing the bare arms and is accompanied by a greyhound. The rather wild landscape is out of keeping with the costume, but may hereafter give rise to conjectures. *The Enchanted Wood*, by Mr. MILLIE DOW, fully bears out the title. There is an air of mystery over the whole scene, and a glimpse is given of a woman near a lake who may be under a spell. The portrait of *Lord Justice Vaughan Williams*, whose black and gold robes stand out well against the red background, is a capital work of the late ROBERT BROUGH. The strong head would tempt any painter to exert himself, and in this case the likeness is expressive.

In the North Room the early contest for a recognition of realism is recalled by EDOUARD MANET'S *Le Linge*. He was the doughtiest combatant, and he sometimes adopted more crudeness than was necessary in order to assert the artist's right to do what he pleased. The painting shows a woman in a garden, where she stands by a wash-tub, and a child looks on as if assisting. The incident is simple, but English people would prefer a different treatment. *Les Blanchisseuses*, by M. DEGAS, can hardly be considered as impressionist, for a very definite outline is suggested; but it must be admitted that the painting is not finished. It is therefore more likely to be an experiment of another kind. The two women are each carrying a basket of linen, and stand in relief against a yellow wall. For the circular portrait called *Mother and Child*, by Mr. J. DE FOREST BRUSH, the Society is indebted to the Pennsylvania Academy. It is another example of the perfection to which American artists have attained, for it would assert itself among any collection of portraits.

Water-colours, etchings and drawings have not been included in the collection, but they will appear at an exhibition to be opened on February 20. Without them the exhibition as it stands is well worth visiting. The general absence of incident pictures may disappoint those who wish to have a series of stories brought before their eyes which do not require the trouble of reading. That, however, is an advantage, because the majority of the paintings depend for any interest they possess on their technical qualities. The French have long given up the creation of little dramas or the illustration of scenes which are familiar in books. It is satisfactory to find so many English artists now following them. What is, however, desirable is that amateurs and collectors will adopt the painter's theory and judge the paintings simply by their merits and their correspondence to rules of art.

THE LATE FREDERICK SANG.

THE veteran architect and artist, the late Mr. Frederick Sang, was born in August 1813, in Offenbach-on-the-Main, Germany. As a young man he entered the Royal Academy of Munich, and studied architecture under Baron Gaertner. After this he went on his travels through Germany, France, Italy, Greece and Asia Minor, and then came to England to settle. In England a special Act was passed making him a British subject. He was the father of coloured architecture in this country, as, previous to his settling in England, all artistic decorative work was carried out by foreigners, principally Italians and French and a few Germans. He practised as an *architecte-décorateur* until about ten years ago, when he had to retire on account of his great age, although he was still active and working, &c., until the day of his death. Many important works in this country have been successfully carried out by him; amongst others, for the Corporation of the City of London, the decoration of the Royal Exchange when it was opened by Her Majesty the late Queen Victoria and the late Prince Consort. These decorations still exist, especially in the ceilings of the grand ambulatory, some of them being real frescoes. He also decorated the Coal Exchange and several other important buildings in the City. In the West End he decorated all the principal clubs, the chief mansions of the nobility and gentry, &c., as well as numerous celebrated mansions and public buildings in this country and abroad. In architecture he has also done a deal of work during his long career, viz. he received the first prize for covering the quadrangle of the Royal Exchange with a glass roof. This, however, was done years later by Mr. Barry. His Westminster improvements and concentration of Government offices with a new National Gallery in Trafalgar Square were exhibited in the Royal Academy, and were highly commended and approved by the authorities then in power. He also sent in a design for the Albert Memorial, the proposed Royal Mint on the Embankment, the Roman Catholic Cathedral in Westminster, the Oratory, Brompton, and other works too numerous to mention. In 1895 his scheme for an Imperial Chamber of Commerce in the heart of the City of London was submitted to the authorities; at the same time he submitted a scheme to Mr. Chamberlain and Mr. Balfour for expressing "the unity of Great Britain and her Colonies, and Protection to be restored to England." Abroad he planned the overland route to India by way of North Africa and the Euphrates Valley Railway; also the docks and granaries on the Danube. In this latter scheme the present veteran Emperor of Austria, as well as the then King of Bavaria, took a great interest, and granted him audiences to explain his scheme and approved the same. The last decorative work he did was in 1894, when he redecorated the Conservative Club, St. James's Street. After a busy life he passed away peacefully on December 27, and was laid to rest in Harrow-on-the-Hill cemetery on December 30, 1905.

WORCESTER CATHEDRAL.

A CORRESPONDENT of the *Toronto Globe* gives the following account of the impressions he received from a visit to Worcester Cathedral:—

There is nothing in the first glance at the exterior that would suggest the antiquity of the building or the storms which have raged about it when Royalists and Roundheads fought to the last gasp. The restoration, which lasted many years, was completed in 1874, and, as far as one can judge from the literature obtainable, the exterior, at least, represents practically a new edifice. As for the interior, it took skilled workmen a score of years to pick out the plaster which coated all the exquisite decorations in carved stone, and only after an incredible amount of toil was the vandalism of the Roundheads effaced. What it must have cost them in labour to cover up the marvellous carvings it is hard to say, but it certainly cost in wages the price of a moderate-sized church to undo their handiwork.

The proportions are marvellous, the groined roof, 68 feet in height, the tower 170 feet, are objects of beauty and of joy for ever. The first thing which struck the writer on entering was the pleasant warmth after the cold, bleak atmosphere of the outer world. But there was hardly a suggestion of antiquity in the first glimpse of the interior, and it came as a shock of surprise when one found oneself close to the tomb of King John, with his effigy cut in stone. Here he lies, wearing royal robes, with a crown of metal. The face has a moustache and beard, the hair is long, and a rather curious touch is that of the sandals with spurs inserted. It is said that this is the earliest royal effigy in England, and that it was carved shortly after the death of the king, hence it is supposed to be a good portrait. So here is a well-preserved relic of 1218. And a little further on, and taking up the whole of the bay on the south side of the altar, is the gem of the cathedral, the exquisite Gothic chantry containing the altar tomb of the young princeling of sixteen, Arthur, eldest son of Henry VII. Neither photography nor written description can do justice to this marvellous piece of carving in open and closed panelwork, enriched with figures and heraldic devices, with its flat-groined roof and curious flying supports. The east wall of this little chantry is covered with a rich mass of tabernacle-work with niches, each with some beautifully carved figure within. How one longs to be learned in architectural lore to picture this work of indescribable beauty and grace. This is the only portion of the cathedral which escaped mutilation by the Cromwellites, and possibly the charm, the exquisite beauty of the workmanship, implored in almost articulate pleadings to be left undisturbed.

These vast cathedrals always bring before one's visions those days when perfect hordes of sandaled monks filled the choir and nave. Can it be wondered at if a member of the Roman Catholic Church feels not a little "piano" when wandering through these churches and cathedrals which were once the property of their especial communion? Times have changed and the wheel turns slowly, but it is difficult often to distinguish the ornamentation, the altar fittings, the vestments used in these great cathedrals from those common to all the churches under the sovereign Pontiff. Here are the embroidered altar cloths, the candlesticks of metal, the central cross, often bearing the figure of the Crucified. Usually there is the lady chapel, where daily service is heard and where the members of the congregation are found before the altar, absorbed in silent meditation.

What delighted me most in the lady chapel was the tablet erected to the wife of Izaak Walton, the famous wielder of rod and line. The inscription was quaint in the extreme, and ran somewhat as follows, "A woman of remarkable prudence and of the primitive piety."

In the south transept is a case containing some really curious relics, amongst other things a golden paten, found in the coffin of one of the bishops, and this is used in the celebration which takes place in the crypt once a year when the anniversary of the patron saint comes round. Among other curious things was a bit of the skin of a Dane who had been flayed for sacrilegious theft and his skin nailed to the door of the church. It might have been the hide of a modern politician, it was so tough. There beside it was Wycliffe's translation of the New Testament, exquisitely illuminated by the monks, the gold and scarlet as bright as if done yesterday. Speaking of illuminating, the cloisters to the south of the church are something one cannot forget. Here are the "peeping slits" where one of the monks looked through to watch that his brethren did not doze instead of work, and one could picture the row of monks, each engaged on some piece of work, feeling that they had an overseer to keep them up to the mark. Just off this cloister is the chapter-house, an immense decagonal chamber, where the authorities of the cathedral meet each year, but the stone seats carved in the wall have been removed. From the cloisters we were taken to the crypt. "Early Norman apsidal, and remarkable for its beautiful groining," announced our guide, and we looked at him with awe and reverence, his sentences were so learned, his manner so superior. To me it was peopled with shadows of bygone tragedies. It mattered little if it were Early Norman or Early English; it spoke of the mighty dead, of struggle and of bitter woe. "Don't, for Heaven's sake, become depressed by the shadow of the dead," an Englishman said to the writer the other day. "You colonials bring such an inspiring sense of the future in this land of the past, and if you stay here too long you will get like the rest of us, hunting in dungeons for the gloom of a gory past." How true it is. One whiff of the prairie air would dispel the vapours of the mouldy crypts, and the very sight of something resembling a huge iron stove, reminiscent of Canada, as we emerged from the greyness and chill of the crypt gave one a sense of cheer and encouragement.

Such is life. This beautiful edifice, wonderful in its proportions, in its mass of detail, its glory of stained windows, carving and priceless reredos of alabaster, simply reeks with the memories that one would fain consign to oblivion. In passing out I noticed a chapel in one of the south bays I had not seen before. You entered a door, a portion of a marvellously carved wooden screen, and found what looked like a private oratory. This was the Jesus Chapel, with an enormous crucifix carved in wood, flanked on each side with wonderful carved wings, and in the dim, rich light from the stained window one discovered a score of prie-dieus where one or two women were kneeling in meditation and prayer. I could not find out the history of that chapel, which interested me greatly, for the work was assuredly by one hand and the carving of an excellence rarely seen outside of Italy.

But time waits for no man. It was only a hasty visit, all too short, and yet perhaps leaving all the more vivid impression because of its brief character.

DUTIES ON AMERICAN PLANS.

A MEMORIAL from Canadian architects has been presented to the chairman of the Canadian Tariff Commission, respecting the necessity of the imposition of duties on plans sent by American architects for buildings in Canada. It is as follows:—

Sir,—The Ontario Association of Architects and the Toronto Architectural Eighteen Club beg respectfully to call your attention to the injustice done to Canadian architects by the present tariff on architectural drawings. Prior to December 1901, the duty on drawings coming into Canada from the United States was as follows:—

"Each set of original drawings, or single set of blue prints of same if brought into Canada as a substitute for the original drawings, 2 per cent. of the estimated cost of the building to be erected thereon.

"Same, if accompanied by details, 3 per cent. of such estimated cost.

"Details or blue prints of same, if imported separately, 1 per cent. of the estimated cost of such detail.

"When additional sets of blue prints of the same set of drawings are imported, such additional sets of blue prints are to be valued for duty at 5 dols. per set, in addition to the value of the original drawings or first set of blue prints imported in lieu thereof, as above."

This schedule was cancelled after the above date, for what reason we are unable to state. The duty as now in force is practically nominal, being a charge upon the value of the paper only and the time spent in making copies, such as blue prints.

As an evidence of the unreasonableness of the present tariff and the hardship inflicted on Canadian architects, American architects may erect expensive buildings in Canada, having all the draughting done in the United States, whereas Canadian architects are practically debarred from carrying on work in the United States under any condition by reason of the duty and the alien labour law.

We would suggest a tariff as follows:—

Each set of original drawings or single set of copies or blue prints of same, if brought into Canada as a substitute for the original drawings, 40 per cent. of the architect's fee, the architect's fee being at 2½ per cent. on the estimated cost of the building, for working drawings and specifications. The same, if accompanied by full details, or for full details afterwards furnished, 40 per cent. of an additional fee of 1 per cent. on the estimated cost of the building.

When additional sets of copies or blue prints of the same set of drawings are imported, such additional sets of copies or blue prints are to be valued for duty at 5 dols. per set, in addition to the value of the original drawings, copies or blue prints. A declaration to be taken that such sets are merely duplicates of drawings or copies or blue prints already imported.

The following is a comparison of the 1901 and the suggested schedule as they would work out in a 100,000 dol. building:—

	Dols.
THE 1901 SCHEDULE.	
2 per cent. on cost of building (100,000 dols.) . . .	2,000
THE SUGGESTED SCHEDULE.	
1 per cent. on cost of building (100,000 dols) , . .	1,000
Or, instead of the above by a rating of 40 per cent. on the architect's fees which should be put at 2½ per cent. on the cost of the building for plans and specifications.	
(Example) the duty on a building costing 100,000 dols. would be, architect's fee at 2½ per cent., 2,500 dols., and a duty of 40 per cent. on such fee would be . . .	1,000
For detail drawings the architect's fee should be put at 1 per cent. on the cost of the building.	
(Example) the fee on details of a building costing 100,000 dols. would be 1 per cent. on 100,000 dols. or 1,000 dols., and a duty of 40 per cent. on such fee would be	400
Note.—The present duty on drawings of a 100,000 dol. building is the nominal sum of say	5

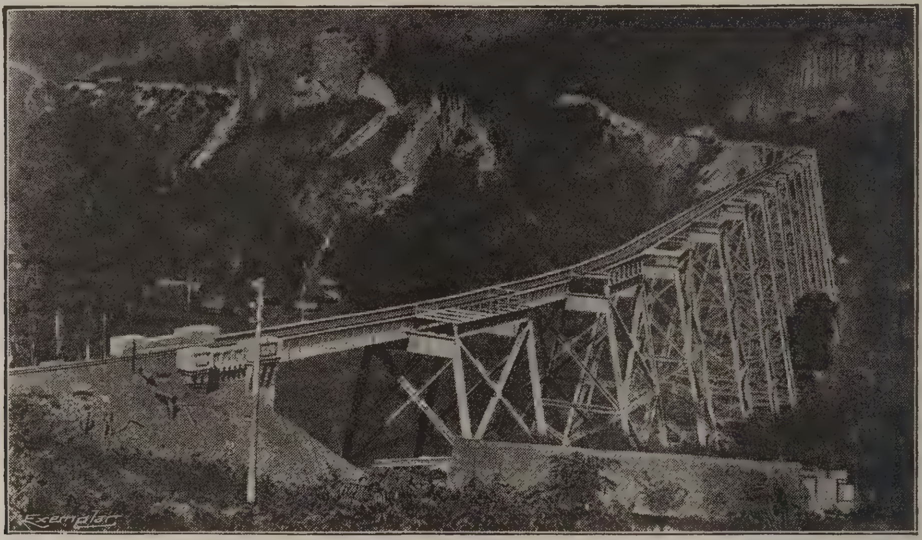
THE BRITISH SCHOOL AT ROME.

THE first open meeting of the British School at Rome for the current season was held on Thursday, January 4, and was attended by the British Ambassador and by many foreign scholars and British residents in Rome. The assistant director, Dr. Ashby, read a paper on sixteenth-century engravings illustrative of Classical sculpture, pointing out the importance of the subject in relation to the catalogue of the Capitoline collection of sculpture, which is in course of preparation by the school. The evidence of engravings is often of value with regard to the condition of a statue at the time of its discovery, and also as to its provenance and subsequent history. He then exhibited a copy of the first edition of the famous plan of Venice in six sheets, a woodcut of 1500, the author of which is unknown, though it is often attributed to Jacopo de Barbari. Mr. A. J. B. Wace, librarian of the School, followed with a paper upon two Roman historical reliefs preserved in the Louvre, which were formerly in the Borghese collection. By the combination of evidence drawn from various sixteenth-century sources he was able to demonstrate that they were discovered in Trajan's Forum about the year 1540, and thus to make an important addition to our knowledge of the decoration of this series of buildings.

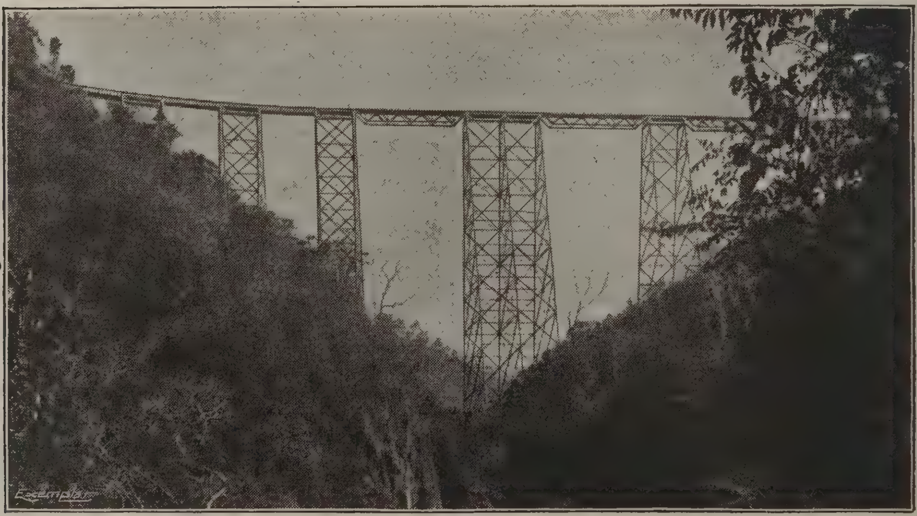
The Caversham Urban District Council have asked the following architects to submit designs in a competition for a library:—Mr. F. W. Albury, Messrs. Cooper & Howell, Mr. J. Hugh Goodman, Mr. W. G. Lewton, Messrs. Millar & Cox, Messrs. Joseph Morris & Son, Messrs. Ravenscroft, Son & Morris, Messrs. Charles Smith & Son, Mr. James Haslam, Mr. S. Slingsby Stallwood, Mr. Geo. W. Webb, Mr. W. Wing, Mr. N. T. Salmon and Mr. W. G. A. Hambling.

A BURMESE RAILWAY VIADUCT.

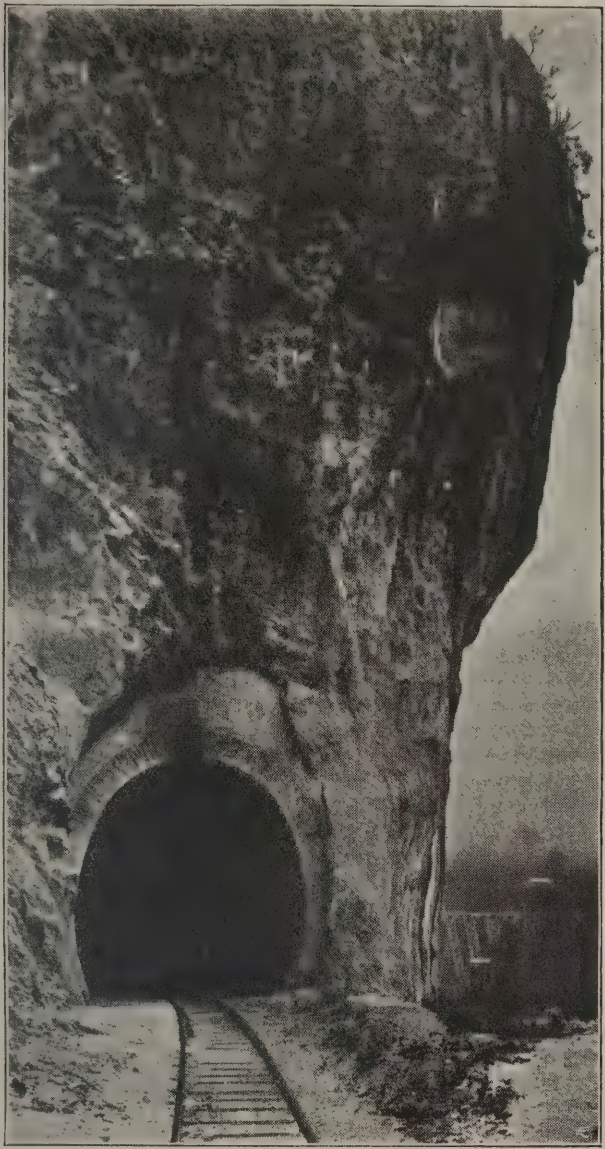
A CORRESPONDENT in Burma has sent us the photographs, now reproduced, of a railway bridge which not only excites the wonder of the inhabitants, but terrorises some of them by its height and apparent frailty. Since the country was subjected to British control efforts are being made for its improvement. Burma is rich in minerals and forests. Although there were facilities for internal communication by means of rivers and canals, they cannot compete with railways. In 1877 one railway was commenced and another in 1884. The annexation of Upper Burma gave an impetus to railway works, and the system has now, we believe, a length of nearly three thousand miles. In Lower Burma, part of which has been held by Great Britain from 1826, railway construction is comparatively easy. But in Upper Burma there are several mountain chains which require tunnelling, as well as viaducts over gorges. The gradients are sometimes so steep that a carriage can travel for several miles without any aid from a locomotive. The approach to the Gotick bridge is of that kind. It will be seen from the illustration that a tunnel had to be opened close to the bridge. The framed piers of the bridge were constructed at points where they could be raised economically, and the central piers are not more than 350 feet above the rocks. But the depth of the gorge near them, in which there is a waterfall, is increased to 800 feet. The whole of the district is more remarkable for its wildness than its fertility. It is expected that the station will be used mainly by travellers who are eager to view scenery which before the construction of the railway was inaccessible to them. In order to accommodate them a bungalow has been erected, and it can be taken advantage of by passengers wishing to make explorations in the country. Landscape-painters could not discover a region which affords more novel subjects. Indian scenery has not been appreciated by Europeans, but in Upper Burma there are localities which deserve to be considered as revelations of the sublimity of nature. It will be observed that there is no handrail to the bridge. This suggests how few passengers stop there, for it requires a strong head to be able to look down into the chasm. In course of time more precautions for safety will be taken.



GOTICK BRIDGE, LOOKING FROM REST HOUSE.
(The train goes in zigzag fashion up the hill on the other side.)



LOOKING UP AT GOTICK, ABOUT HALF-WAY DOWN THE GORGE.
(The bottom is 800 feet from top of bridge.)



TUNNEL CUT THROUGH ROCK. GOTICK VIADUCT IN THE DISTANCE.

TRAIN CROSSING GOTICK BRIDGE.

RURAL BY-LAWS.

ONE of the results of the new *régime* at the Local Government Board is the following letter to rural district councils :—

Local Government Board, Whitehall, S.W. :
January 5.

Sir,—I am directed by the Local Government Board to state that it appears from a Parliamentary return which they have recently caused to be prepared relating to the by-laws with respect to new streets and buildings in force in the rural districts of England and Wales, that throughout the whole of 169, and in parts of 114 rural districts, by-laws are in force based on what is known as the Urban Model Series. This series is a comprehensive one, including clauses on most of the subjects upon which urban district councils are authorised under section 157 of the Public Health Act, 1875, to make by-laws.

Since the issue of this code, which was primarily intended for use in urban districts, it has been strongly urged that its adoption in districts which are of a rural character has led to interference with reasonable building operations, and the Board feel that a series of by-laws so extensive as the Urban Model is not necessary for a district or part of a district quite rural in character, where little building is going on and aggregations of population are not likely to develop in the near future. In such cases it is considered that a less elaborate code of building regulations would generally be found sufficient. In order to meet the requirements of such localities the Board in 1901 compiled a model series of building by-laws for rural districts, dealing only with the subjects which appeared to them to be most in need of regulation and control in such districts from a sanitary point of view. This series has commended itself to rural district councils in a large number of cases, and, as appears from the Parliamentary return, by-laws of the character of this model have already been adopted throughout 106 and in parts of thirty-two rural districts.

The Board are aware that there are in not a few rural districts areas possessing urban characteristics, or containing considerable aggregations of rapidly growing populations for which a more comprehensive series of by-laws is desirable. Indeed, in areas of this kind the by-laws might properly and desirably approximate to those in force in urban districts. Parts of rural districts having such special circumstances can always be separately dealt with if such areas can be suitably defined. But the Board think it probable that amongst the rural districts in which the Urban Model Series is in force there are many parishes or other areas which cannot be said to have urban characteristics, and in which the by-laws in some respects impose undue restrictions on building and are more onerous than the circumstances require.

The Board are desirous that no obstacles should exist which can properly be avoided in the way of an extension of housing accommodation, whether by local authorities or private persons, and the object of this circular is to secure that whilst sanitary requirements should be strictly observed, all unnecessary impediments in the development of building should be avoided.

The Board would be glad if the rural district council would carefully review the circumstances of their district for the purpose of seeing whether any modification of the present by-laws is desirable, and whether any part of the district might more suitably be placed under a series based on the Rural Model, or, if this is not thought suitable, by such a series supplemented by a limited selection of clauses from the Urban Model. In some cases relaxation has already been given by a clause exempting detached dwelling-houses from certain of the restrictions as to the construction of walls. Even where it is considered that the full code of by-laws should be retained, the existing by-laws, unless made very recently, might with advantage be reviewed in connection with the latest form of the Urban Model. This contains many additions and modifications based on the experience of the working of the old model, and at the same time is framed so as to give more elasticity in the administration of the by-laws.

The Board wish to be informed of the result of the consideration of this letter by the rural district council, and they will be pleased to supply draft forms for use in connection with any revision of the present by-laws and to afford any information which they have at their disposal on the subject of by-laws of the kind in question.—I am, Sir, your obedient servant, S. B. PROVIS, Secretary.

NOTES AND COMMENTS.

In the United States architects are likely to be offered opportunities not only to design buildings but to produce plans for the remodelling of cities. Mr. D. H. Burnham appears to be in favour for the latter class of work. He has prepared a plan for the improvement of San Francisco which will cost at least 50,000,000 dols. The work would, however, require about half a century, to be carried out in its entirety. San Francisco was only a mission station prior to 1846, and the population was less than 500. The discovery of the goldfields for a time seemed to be likely to give rise to a city which would supersede it. But there was a reaction, and the old city has since advanced at a rapid rate. The population in 1900 was 342,782. Being a comparatively new city it is practicable to introduce improvements at a more moderate cost than in New York or Boston. If the people will accept Mr. Burnham's propositions it will be an example which is likely to be followed in other parts of the States.

There is almost a terrible responsibility cast upon a committee appointed by the Municipal Council of Paris. That city in imitating London was bound to have an underground railway. It was out of place in Paris, where there is so much to gratify the eyes of people. It has been alleged that the Métropolitain is in many places carelessly constructed, and that catastrophes await not only the passengers, but also the inhabitants of houses along certain parts of the route. The workmen who have been employed on the underground operations are the strongest witnesses against the work in which they have been engaged. Their statements may be exaggerated, and may not be of more value than those recently expressed in Dublin respecting the new sewers. The engineers declare that generally the railway is in a safe condition, although in parts there may be irregularities. It is impossible, however, to arrive at any decision on the subject until the report of the commission appears. It may be found that any unsafe work was executed in order to compel the public to have less confidence in a costly undertaking.

One of the treasures of St. Petersburg is a piece of stuff richly adorned, which is supposed to have been part of a robe worn four centuries before our era. It is beautifully ornamented and suggests the character of Greek costume. It has often been illustrated, and apparently deserves all the praise it has received. In interest it must be considered as inferior to another fragment of a textile which is at present in the museum at Cairo, and which Brugsch Bey believed to be at least 3,330 years old. It is therefore a thousand years more ancient than the Macedonian or Greek example of which Russia is the possessor. Evidently it is a State robe worn by the Egyptian monarch, and yet it is as much remarkable for its simplicity as for its ornament. There are seven rows of flowers, including the lotus and the papyrus. There is also a symbolic serpent. The figures were not embroidered or painted but were woven, proving that in so remote an age the art had attained a high standard. The dyes used in those days, and especially red and blue, were equal to any which are now known.

ILLUSTRATIONS.

13 HYDE PARK PLACE, BAYSWATER ROAD, W.

THE accompanying illustration of the above mansion flats which have been recently completed shows in the design that an advance has been made in the right direction for the architectural treatment of a large building. The front elevation overlooking Hyde Park is five storeys high, and is composed of a recessed centre flanked by two projecting wings. The windows on the front are coupled, and with the projecting balconies and rich ironwork form groupings subordinate to the general scheme. The whole building is surmounted by a finely proportioned cornice and balustrade. The entrance hall and staircase form part of the same architectural scheme, and have been carried out in stucco, a similar material to that used at the Scala Theatre. The materials employed for the elevations were Ham Hill stone and cast-iron for the balcony railings, the contractor being Mr. Frank Bush. The whole of the work has been carried out from the designs and under the superintendence of Mr. Frank T. Verity, F.R.I.B.A.

BISHOP'S THRONE, ROMAN CATHOLIC CATHEDRAL, SALFORD.

THIS throne is in the Catholic cathedral of Salford, one of the conspicuous buildings of the earlier revival, designed by Messrs. Weightman & Hadfield on the lines of Selby Abbey, that is, as regards the choir portion seen in illustration. The throne is of oak. The three angels bear on their shields in proper heraldic colours the cognizances respectively of Pope Leo XIII., then reigning; Dr. Bilsborrow, the then Bishop of Salford; and of Cardinal Vaughan, his predecessor in the see and at that time Archbishop of Westminster. The summit is occupied by the figure of St. John the Evangelist, patron of the church. Portions of the figures are gilt. The architect is Mr. W. Randolph, of 8 King Street, Manchester (now of the firm of Messrs. Randolph & Holt). The body of the work was carried out by Messrs. Hatch, of Lancaster; the figures were carved by Mr. Bridgmans, of Lichfield; the faldstool and seats executed by Messrs. Cox & Buckley, of London. The side curtains intended to complete the arrangement have not been added.

SCULPTURE GALLERY, ABERDEEN.

DESIGN FOR PROPOSED MUNICIPAL BUILDINGS, LAW COURTS, AND TOWN HALL FOR BOURNEMOUTH.

THE design for the Bournemouth Municipal Buildings, Law Courts and Town Hall by Mr. F. W. Lacey and Mr. C. E. Mallows has been considered as too expensive. But from the character of the design it merits a place among our illustrations. The principles upon which the scheme is based are (1) that the form of the plan in mass should be determined by the outline of the site, as it was considered essential that each elevation should conform to the lines of the roadways; (2) that the northern centre of the group of buildings should be occupied by the town hall; (3) that the law courts be placed on the east side and the municipal buildings on the west. The varying levels of the ground have afforded an opportunity which may be considered as unique of planning a building in such a manner that three distinct ground-floor levels are obtained, each with a separate entrance from the street. In that way obvious facilities in the everyday work of each department are secured. The style adopted was that employed in this country during the seventeenth and early part of the eighteenth centuries, and which has the advantage of allowing large window spaces. The view, which is taken from the Christchurch Road on the south-east side, shows that a balanced and dignified elevation is given to each frontage. The general effect of the building, from whatever point of view it is taken, is concentrated on the dome, which rises from the exact geometrical centre of each elevation, and dominates the whole of the composition. With regard to the construction, care was taken that walls should come over walls, piers over piers, and windows over windows throughout the design. And as a consequence steel construction is almost avoided. The estimate for the municipal buildings and law courts was 78,000*l.*, with an additional 48,000*l.* for the town hall. The basis of calculation was 1*s.* per cubic foot of space. The estimate included the internal completion of the dome, but not the upper external portion, which would cost about 8,500*l.*

THE COLONIES AND COLONIAL ARCHITECTURE.

(*Continued from last week.*)

SOUTH AUSTRALIA.

THIS colony has a total length of 1,850 miles, the extreme breadth being 650 miles, and the total area about 903,000 square miles. The population at the last census was about 365,000. There is an endowed university at Adelaide, founded in 1881. A State school of mines and industry has also been established. The public library, museum, art gallery and local institutions are supported or assisted by the State at an annual cost of about 10,000*l.* The total value of the commerce in 1903 was about 15,000,000*l.* in imports and exports. The length of Government railways open in 1903 was 1,739 miles, the total cost being about 13,500,000*l.* Adelaide, the capital (founded in 1836), is situated on the river Torrens, in the middle of a large plain, and possesses excellent buildings, churches of many denominations, clubs, libraries, and all the conveniences of a modern city. It is, moreover, said to be the best drained city in Australia. In the south-eastern division of the colony is the town of Mount Gambier, near to which good building stone is found.

WESTERN AUSTRALIA.

This embraces an area of 1,000,000 square miles, or something like eight times the extent of the United Kingdom. A portion of it is situated in the tropics, but the greater part is in temperate zones. It contains some of the most paying gold mines in the world, the output of the colony being estimated at 9,000,000*l.* worth every year. In the temperate portion there are very large areas of agricultural country which are being rapidly occupied, and in consequence of the gold production, the extension of agriculture and the extensive exports of jarrah, there is a great deal of building, especially in the larger towns, of which Perth is the chief. The jarrah forests embrace an area of 8,000,000 acres, and the timber is now almost exclusively used in the State for building, its only rival being karri.

With regard to the illustrations :—(1) The Government House at Perth is the residence of the Governor appointed by the Crown—at present Sir Frederick Bedford. The style of building is considered to be very much in common with what one sees in the country houses of the well-to-do in England. There is also shown a small portion of the well-kept grounds. The interior fittings and decorations are of highly polished jarrah, which has a beautiful effect. (2) The hospital at York is more typical of colonial architecture, showing how verandahs are added to protect the woods from the direct rays of the sun.

We have before us a copy of some notes on the jarrah timber of Western Australia by the late Mr. C. Y. O'Connor, who stated that :—

"For durability in general construction work of all classes jarrah is undoubtedly one of the very best of all known Australian hardwoods, and in regard to strength compares fairly well with most foreign timbers. For wharves and jetties jarrah is exclusively used in this colony, and of all Australian timbers is the best to resist the devastations of 'Cobra' and 'Teredo navalis.' Of all the West Australian timbers jarrah is also the most successful in resisting the ravages of white ants; hence the principal reason for its being of late years exclusively used for railway sleepers."

Mr. C. S. R. Palmer, the former engineer-in-chief of Western Australia, and now the colony's consulting engineer, has also favoured us with the following further notes on the uses of jarrah timber :—

"In September 1899 the late Mr. O'Connor, then engineer-in-chief of this State, dealt with the uses of jarrah in positions where it is pre-eminently suitable owing to great density, strength and toughness; but in addition to these uses the timber has been employed more or less in all classes of building operations in this State, and as its qualities have become better known, and the difficulties inherent in working so dense and hard a wood have been overcome, its employment has been increasingly great. The one defect to be guarded against is the tendency of jarrah to warp when exposed to the direct rays of the sun. It has of late years been used almost exclusively in public buildings, more especially in connection with engineering works in the rougher portions, such as railway platforms, fencing and kerbing, wall frames with brick nogging or weatherboards, verandah posts, roof timbering and beams, and, in fact, wherever lightness is not a desideratum, and for such uses possesses the especial quality of not suffering from rot when built into masonry or let into the ground. In buildings where there is much traffic, and also in private houses, jarrah planks furnish a durable, cleanly floor, capable if desired of high polish. Skirtings, dados, rails, architraves, door frames, transoms, mullions, doorsteps, staircases, mantelpieces and furniture, more particularly in public buildings and large houses, have been and are being increasingly made of this wood with very handsome results."

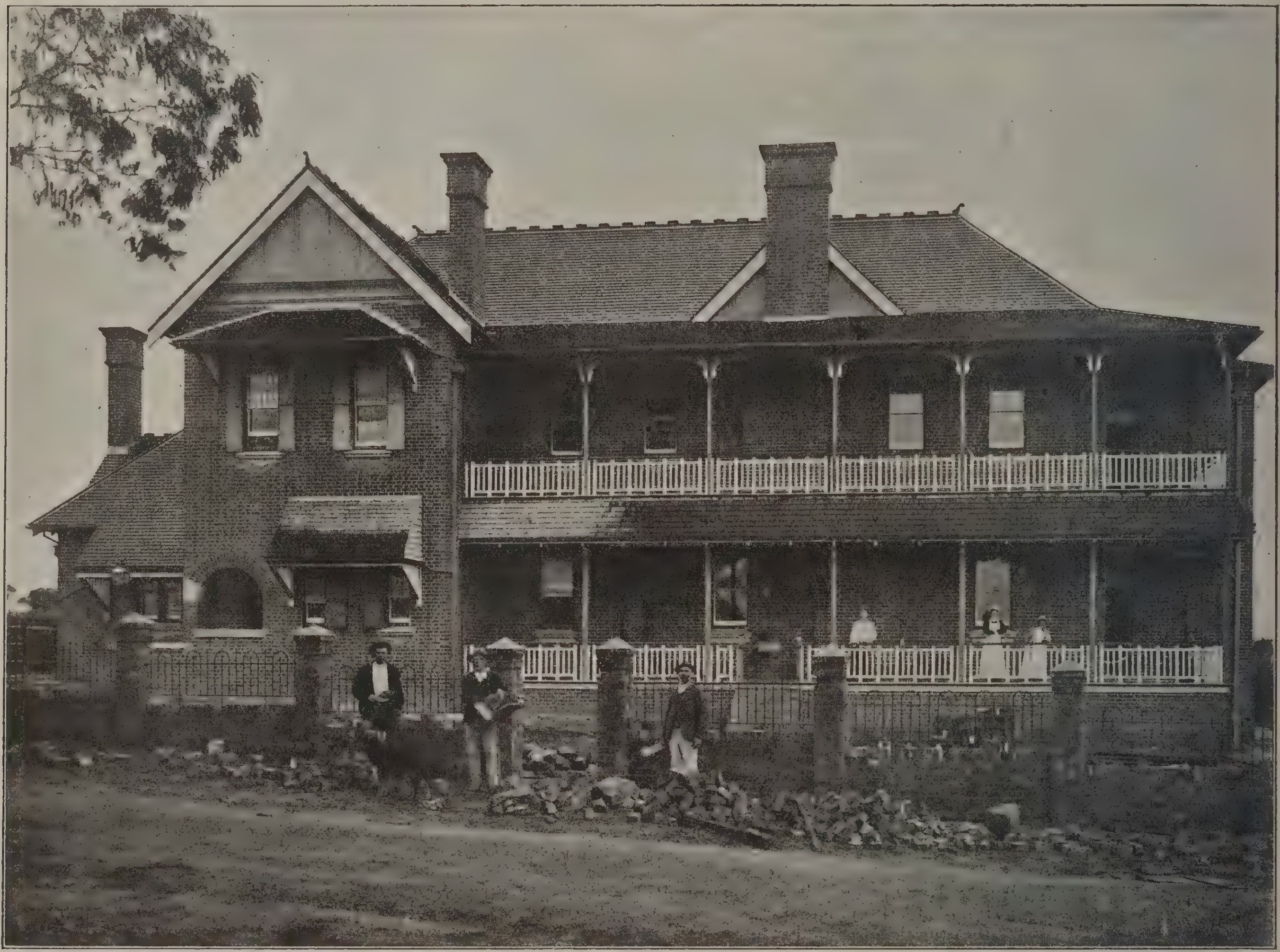
Nor should we omit to mention the splendid services that jarrah has rendered for street-paving purposes, in which connection we have before us the table of returns issued by Millars's Karri and Jarrah Company, Ltd., showing that in the judgment of a very large number of the municipal engineers of the Metropolis and the leading provincial towns of the United Kingdom, karri and jarrah paving blocks are the most durable in common use, while in Australia, the country of origin, the testimony is equally if not more satisfactory. On the score of durability, economy, hygiene, safety, as well as quietness and ease of traction, the evidence is decidedly in favour of the woods named for street-paving purposes.

TASMANIA.

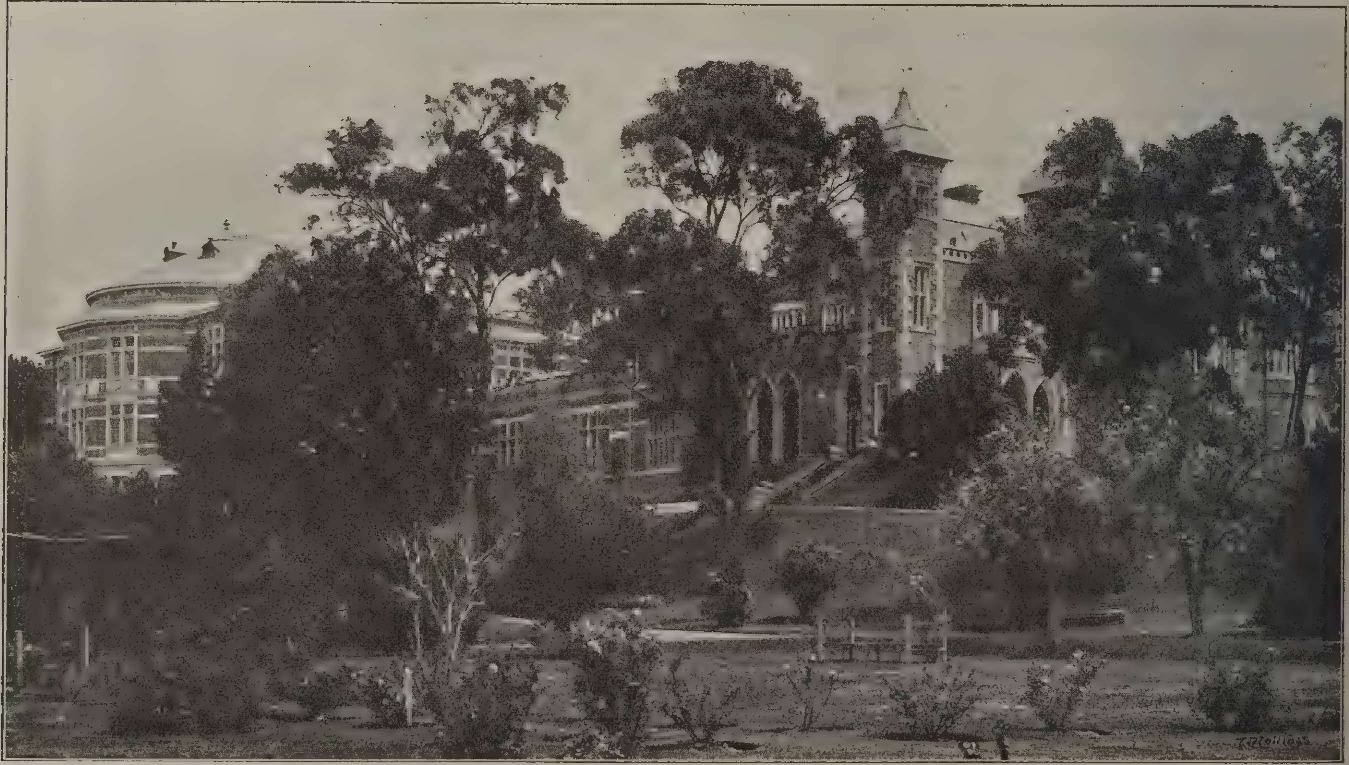
This island, which was formerly known as Van Diemen's Land, is separated from Australia by Bass Strait, 120 miles wide, and its greatest length is about 230 miles, while its greatest width is about 190 miles. According to a rough estimate, its surface is 26,215 square miles, or about 4,000 square miles less than the whole extent of Ireland.

Hobart, the capital, has a picturesque position on the river Derwent, and possesses a fine harbour, all the comforts of a modern city, and the neighbourhood is delightful. The public and other buildings are usually of a very substantial character, and according to English ideas of architecture. The cathedral at Hobart is a large stone edifice, capable of seating over a thousand persons, and is one of the handsomest buildings in the city. There are several Roman Catholic churches, including a cathedral.

A considerable part of the island is more or less thickly covered with timber, the predominant tree being the eucalyptus, which grows to a great height. Of all Tasmanian trees, gum trees are the most remarkable from the immense size to which they attain, their very general distribution over the island, and the wide range of uses to which their products may be put. The trunks of these trees are straight and cylindrical for 100 feet and upwards, with only a small amount of taper; the whole tree will measure from 200 to over 300 feet in height, the diameter of well-grown trees varying from 3 to 6 feet. Piles have been recently cut for the Admiralty Works, Dover, 120 feet long and 20 inches square. Bridge beams and large wharf-timbers also are cut on "the quarter," not sided down out of the round timber, as is done with smaller European trees. Blue gum is especially esteemed for piles, owing to the large size that it attains, and the comparative immunity it enjoys from the attacks of the "teredo." It is also used for ship and boat-building, the superstructure of wharves and bridges, railway sleepers and trunk bodies, builders' scantlings of all kinds, joists, frames, beams, floor-boards, &c. Amongst the Government exhibits in the exhibition held at Hobart some years ago was a sample of bridge-decking that had been about 50 years under foot-traffic, and which was still hard and sound. The life of the wharf-piling in Hobart is reported to be twenty-five years. These piles are up to 80 feet in length, and are driven in 40 feet of sea-water. Stringy bark resembles oak in appearance, and is the most general timber for all sorts of constructive works in the State. It makes excellent piles, especially for fresh water. It is also used for shipbuilding, the construction of wharves and bridges, mining purposes, and for railway sleepers, for the dadoes, flooring and fitting of houses, and for furniture. When polished it has a very pretty effect as a ball-room floor or for wainscotting. The stringy bark of Tasmania is especially suited for wood-paving. The blocks do not polish under traffic, but give a good foothold for horses. Stringy bark blocks properly laid will last, we are told, under heavy traffic from fourteen to twenty years. There are about fifty trees that are indigenous to the island, described as timber trees, from which some most valuable woods, both hard and soft, are obtained; also woods for cabinetwork that cannot be surpassed anywhere, and some very handsome decorative woods.



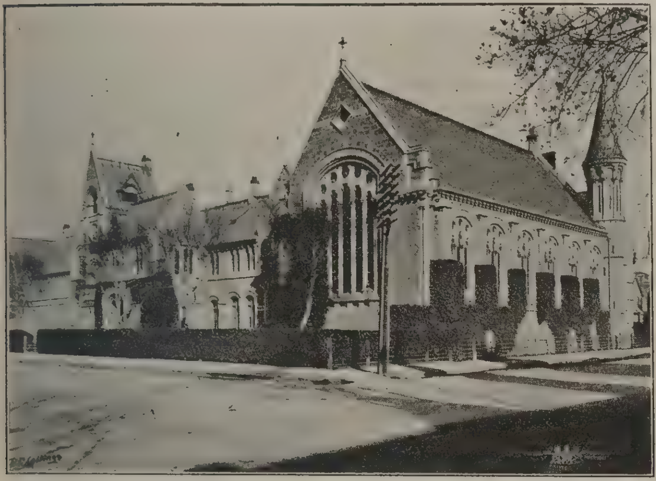
YORK HOSPITAL, WESTERN AUSTRALIA.



GOVERNMENT HOUSE, PERTH, WESTERN AUSTRALIA.

NEW ZEALAND.

The area of the colony of New Zealand, to which we next turn our attention, is about one-seventh less than the area of Great Britain and Ireland, the middle island of New Zealand being a little larger than the combined areas of England and Wales. The country is heavily timbered and possesses vast forests of native trees. Many of these yield timber of the most useful kind, both hard and soft varieties being obtainable in large quantities. Almost all the residences of New Zealand are frame-built, and most of the furniture used is manufactured in the colony from native timber. The woods most generally in use are kauri, rimu or red pine, totara and kahikatea or white pine. Kauri is distinguished for the soundness of the timber and its almost perfect immunity from faults. Its slow growth results in a fine grain which has long led to its consideration by architects and builders. Thousands of houses in Australia and New Zealand have been entirely constructed of kauri pine, the durability of which is unquestioned. In every department of building work it has demonstrated its serviceability, and is now being largely employed for open-roof work, dadoing, panelling, moulding, architraves, doors, flooring, lining and all kinds of joiners' work. Its excellent appear-



Christ's College, Christchurch.

General Post Office and Government Life Insurance Buildings, Wellington.

CHRISTCHURCH (NORTH), NEW ZEALAND.

ance combines with its durability in suggesting kauri pine as a splendid timber for church furniture and for the fitting of public buildings generally. Colonial architects are said to regard kauri with much favour for church work.

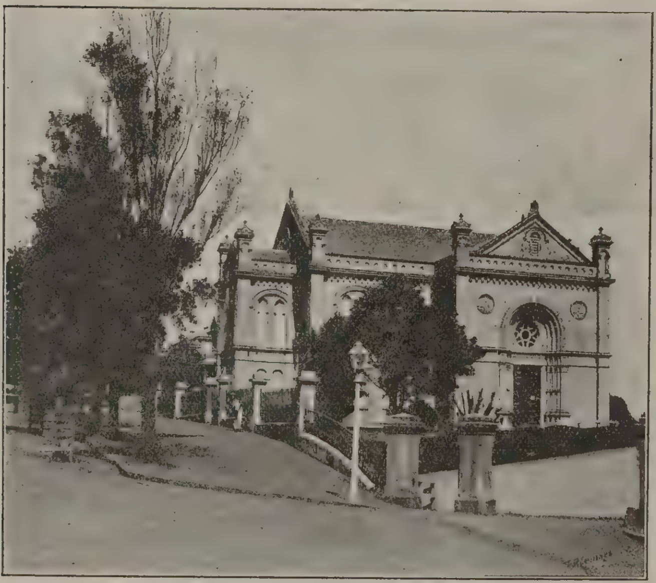
The population of Wellington, with its suburbs, is about 50,000, and, being the seat of Government, it contains the residence of the Governor and headquarters of the Government departments. Noticeable among the public buildings is the General Post Office, and near it is the handsome building of the Government Life Insurance Department, which institution is said to have been originated by the judgment and foresight of Sir Julius Vogel, for many years Premier and Colonial Treasurer of New Zealand. The spacious building erected for head office was designed by Mr. F. de J. Clere, architect, and erected by Messrs. Carmichael & Sons, builders. It forms a conspicuous object on a prominent site, and is considered one of the handsomest structures in the city. It is practically fireproof, nearly all the internal divisions being brick, while many of the floors are of solid concrete with rolled iron girders, and where timber joists have been employed concrete has been placed between them. The large number of strong-rooms is a noteworthy feature, while the sanitary and heating arrangements are of the latest description. Wellington is lighted by electricity, and an excellent water supply is obtained. Many handsome concrete and brick edifices adorn the city. The free library is considered a fine specimen of architecture. Many of the principal warehouses and stores are built on reclaimed land from the sea.

St. Andrew's Presbyterian Church, Auckland.

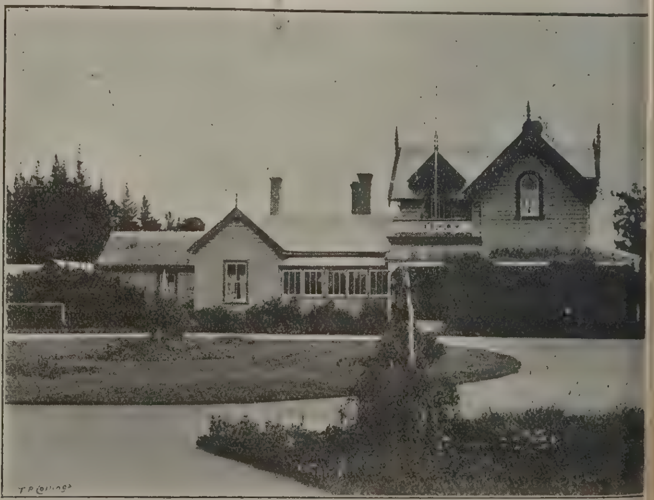
Auckland is the largest city in the colony, with a population of about 68,000, and whether viewed from the hills in the vicinity or from the sea always presents a fine picture. Charming residences nestle at the foot of the hill, while gardens enclosing tasteful villas extend for several miles. The principal street is Queen Street, which contains most of the important buildings, prominent among which are the steamship company's offices, Victoria Arcade, Bank of New Zealand, *New Zealand Herald* offices, the Savings Bank, insurance companies' offices, and numerous other commercial buildings. The public buildings include, among others, the post office and Customs house; then there is the museum, containing probably the finest Maori collection in the world. The free public library and art gallery are in the municipal buildings, a fine structure that cost some 22,000*l*.

The "city of the plains" is the popular distinctive title applied to Christchurch, which well describes its situation, for the Avon wends its way through the practically level plain on which the "cathedral city" is built. The town is laid out in rectangular form, 2 miles by 1¼ mile, the streets being 66 feet in width. The architecture and surroundings of Christchurch are regarded as English in character, while the many substantial structures that help to form Cathedral Square are handsome in appearance and have an exceedingly well-built look. The cathedral is in the most central position of the city and is said to be the same height as the "Monument." Other important public buildings are the post office, Christ's College, museum, &c. The population is about 57,000.

Dunedin, the capital city of Otago, is considered the largest, best built and most important commercial city in New Zealand. Many of the edifices devoted to commercial interests erected in the streets are of architectural merit. The most important of these buildings are congregated around the Cargill monument, a well-conceived piece of architecture in the Gothic style. Round about, in close proximity, there may be noted the Colonial Bank, the Grand Hotel, the insurance companies' offices, and many fine houses of substantial construction, while nearer to the railway and wharf the Union Steamship Company have a fine building. The public buildings of Dunedin are less pretentious in character, with the exception of the town hall, a really fine building situated in the centre of the city.



Jewish Synagogue, Auckland.



Woodlands. A Typical Waikato Homestead, New Zealand.

THE COTTAGE EXHIBITION.

IN the Journal of the Royal Sanitary Institute is a report of the paper read on the subject of "Rural Housing" at a meeting held on November 14 and of the discussion which followed. The following are the conclusions drawn by Mr. T. W. Aldwinckle after an examination of the exhibition at Letchworth :—

In the first place, no striking novelty in construction has been produced. With the exception of a few cottages, which have their external walls of concrete of thicknesses varying from 7 inches to 10 inches, there are practically no suggestions of any real value as regards new materials or construction for external walls, and thus we have only a choice between brickwork and concrete. External walls of open timber framing or of thin plaster or concrete slabs are quite out of the question in this climate. It is plausibly said that many of the old cottages were of wood and were very comfortable. No doubt they were. The windows were very small, seldom open, and there was no attempt at ventilation. Nowadays circumstances are very different. The windows are larger, ventilation has to be considered, and a cottage with thin external walls of whatever material could not be kept comfortable (*i.e.* warm) in winter without a great expenditure of fuel. As to durability, it must be obvious that walls of timber framing or very thin slabs of plaster or concrete cannot be considered permanent in the true sense of the word, nor the class of construction upon which money could be borrowed. Again, the cost of repair must be considered. Cottages built of slight and perishable materials will cost a serious amount per annum for their upkeep. As to fire, some of the timber cottages in the exhibition are mere tinder-boxes. There is only one external wall in the exhibition, other than of brick or concrete, which deserves consideration, and that is to the pair of cottages by Messrs. Potter & Co. (No. 35). This consists of steel framing (3 inch by 3 inch-steel joists) with steel lathing on both sides, covered with rough-cast externally and plastered internally, leaving an internal air-space of about 4 inches. This, however, cannot be equal to a 9-inch brick wall, and would not be much cheaper.

We thus get back to either the brick or concrete wall. In those districts where good ballast can be obtained on the site it is possible that a 9-inch concrete wall would be slightly cheaper than a 9-inch brick wall, but it is very doubtful whether the small economy would outweigh the undeniable advantages of brickwork. We apparently come, then, to the conclusion that, all things considered, a brick wall is most suitable for these cottages. The thickness must not be less than 9 inches, and an 11-inch hollow brick wall is preferable (No. 69, which has taken the prize for the cheapest cottage, has this). In any case the brickwork should be covered with rough-cast, as an additional protection against the weather. This external covering is even more necessary for a concrete wall.

It may be convenient to give a short description of some of the special constructions of the external walls other than brick or ordinary timber framing.

No. 25. Brick-nogging, rough-cast.

No. 35. (Single.) Concrete 7 inches thick, rough-cast.

No. 35. (Pair.) Steel construction 3 inches by 3 inches, with steel lathing on sides, covered externally with rough-cast, air space internally.

No. 36. Solid oak posts, with 3-inch compressed cement concrete slabs filled in between (into grooves).

No. 38. 10-inch by 8-inch hollow concrete blocks finished externally in imitation of stone.

No. 40. Brick-on-edge, reinforced with ironwork as patented by the Fireproof Partition and Spandril Wall Company, with rough-cast externally.

No. 47. Timber framing, expanded metal lathing, and Portland cement rendering.

No. 48*a*. "Mack" slabs 4 inches thick, covered with rough-cast.

No. 50. 6-inch timber framing pugged and covered with rough-cast.

No. 53. 4-inch timber framing covered with "Uralite" Kent board.

No. 58. Concrete blocks, 32 inches by 9 inches by 10 inches, finished externally in imitation of stone.

No. 59. Concrete 7 inches thick.

No. 69*a*. 6-inch concrete cast slabs slightly reinforced with steel.

No. 72. 1-inch weather-boards, one layer of inodorous felt and asbestos cement sheeting $\frac{1}{4}$-inch thick.

No. 73. Two 2-inch concrete slabs with an air space between.

No. 77. Overlapping vertical boards, 8 inches by $1\frac{1}{4}$ inch, interlined with ferol sheeting, and lined with matchboarding covered with Cannon & Hall's distemper.

No. 80. 4-inch timber framing covered with insulating paper and weather-boarding.

No. 85. 6-inch concrete and timber.

The all-important question, however, and the one which it was the object of this exhibition to solve, is that of cost. Can a cottage of the type of No. 14 (prize winner) be built for a prime cost of 150*l.* ? Here again the question of locality comes in. At Letchworth, as will be seen by the schedule below, building materials appear to be very cheap, especially bricks; and this, no doubt, accounted for the fact that the judges report that they are satisfied that this cottage has actually been erected for the stipulated amount, which in this case works out at $3\frac{1}{2}$*d.* per foot cube, the cubical contents being 10,272. This is a low price even under favourable circumstances, but it is higher than the cost per foot cube of the most recently built of Lord Carrington's cottages; so that there is some reason for believing that it is possible to erect a cottage, or at all events a pair of cottages, for something near the stipulated amount. The information which Lord Carrington has made public with reference to the actual cost of his cottages, under the conditions of ordinary contract working, is certainly most encouraging.

Schedule of Prices of Materials and Labour at Letchworth.

		Delivered on Site.
Fletton bricks	per thousand	£1 4 0
Sifted sand	per load	4 0
Local red tiles, sand-faced .	per thousand	1 11 6
9-inch red tile quarries . .	per thousand	3 5 0
Wages—		
Bricklayers	8*d.* to $8\frac{1}{2}$*d.*	per hour.
Carpenters	8*d.* to $8\frac{1}{2}$*d.*	do.
Masons	$9\frac{1}{2}$*d.*	do.
Plasterers	9*d.*	do.
Painters	6*d.* to $6\frac{1}{2}$*d.*	do.
Labourers	$4\frac{1}{2}$*d.*, 5*d.* and $5\frac{1}{2}$*d.*	do.

As to By-laws.

The cottages at Letchworth have been built under the rural by-laws of Hitchin. These are practically the model rural by-laws of the Local Government Board. Under these there are no stipulations as to the materials or thickness of external walls (except as regards basements); consequently, ordinary timber and framing, thin concrete or plaster slabs, plastering on expanded metal, and, in fact, any material, however thin or poor or unsuitable, can be used in building these cottages.

There are, however, in these by-laws important regulations as to concrete over damp areas, damp-courses to walls, copings to parapets, open spaces at rear of buildings, provision of suitable windows, ventilation under boarded floors, ventilation of rooms, drainage, water and earth closets, ash-pit, cesspools and submission of plans to the local authority.

The result of this freedom in relation to wall construction has been that a large number of cottages have been erected under these by-laws with external walls which are neither durable, permanent, damp-proof or in any satisfactory degree capable of excluding the cold, to say nothing of the highly inflammable nature of some of the erections.

Strangest of all is the fact that the cottage which has obtained the first prize is a brick-built structure of a distinctly good and permanent character, which—except as regards, perhaps, the height of the rooms and a few minor details—could have been built under most of the so-called prohibitive by-laws of other urban district councils. This is a most interesting and instructive object-lesson, showing that these much-abused by-laws are not necessarily an obstacle to cheap (and good) cottage building.

What is really required is a more reasonable and intelligent administration of these by-laws, conceived in a sincere desire to assist rather than obstruct those who are honestly striving to do good work.

Everyone who has had much to do with building operations knows only too well how much depends upon the spirit and temper in which by-laws are administered. If the clerk of works or the foreman happens to fall out with the inspector, there will generally be trouble.

As to whether the erection of cottages as these under discussion can ever be remunerative as an investment is a question to be answered with difficulty. It does not appear that the agricultural labourer, as a rule, can afford even the 3*s.* a week rent which is the lowest rent that will pay any appreciable interest on the capital expended, even when land is thrown in. If the building of these cottages could in any way be placed upon a sound commercial basis, the whole problem would be solved. But until that happy state is reached it would be well for those most directly interested to ponder over the weighty words of Lord Carrington in his letter to the *Times* :—

"I have, however, no doubt that indirectly a landowner who improves his estate by adding cottages to his farm does eventually get a very high rate of interest for his outlay. A farm without security of labour does not command anything like such a high rent as a farm on which there are cottages for the labourers. If a farmer has cottages on his farm he knows that he can always secure labour, and my experience is that a higher rent can in consequence be obtained for a farm with cottages, even though the cottages be let at a nominal rent."

Of course it is desirable that the landowner and not the farmer should be the owner of the cottages.

EDINBURGH ENGINEERING SCHOOL.

THE annual report relating to the University of Edinburgh says that substantial progress has been made during the year with the scheme for the "improvement and expansion of the University," and the engineering department has now moved into the new buildings in High School Yards. The plans for the new buildings were prepared in such a way that it was found possible to leave practically untouched the exterior walls of the old buildings, and this was particularly desirable in view of the fact that the front portion of the block (which is T-shaped) was originally the High School of Edinburgh. The ground floor of the head of the T, which faces west, is devoted to two laboratories, one for work on the strength of materials and the other for hydraulics, both fitted up with appliances of the most modern type. In order to secure an ample supply of water at a constant head for the hydraulic machinery, a water tower has been built at the south-east angle of the building, and at the top of this a 10,000-gallon tank has been put up. The first floor of this front portion of the building has been allotted to a large mechanics' laboratory, to the departmental library, and to the private rooms of the Professor and lecturers in the department. The workshops are on the ground floor on a site adjoining the old block of buildings, which has been roofed in and connected to the main block. The back block is also divided into two floors; the lower forms a large lecture theatre, with the necessary cloak-rooms, apparatus-room, &c., and the upper floor is given up entirely to the drawing-office. The lecture theatre has been fitted up for experimental demonstrations, and with all the needful arrangements for darkening the room in order to allow of the free use of the electric lantern. The drawing-office is a fine room, lit entirely from the north and east, and provision has been made for instruction in the various photographic methods employed by engineers for reproducing engineering drawings. As already intimated, the University has also secured ground for the erection on an adjoining site of new buildings for the Natural Philosophy Department, and building operations will be begun early in the year.

TESSERÆ.

Byzantine Ornament.

IN many ways the present art movement is similar to that which brought Byzantine architecture to life and remodelled all Classic ornamentation at the beginning of our era. Then, as at present, among a great commingling of races, a new and freer life had begun, which had its say in a fresh and logical architecture, in the splendid colouring of mosaics and in exuberant and fanciful ornament. Variations of the old designs were made necessary by the new shapes of arch and dome and pendentive, but not less by the quickened feeling for a truth and power and grace that all could understand, and which, as much as any religious need, had produced the new forms of building themselves. The novel designs of the Byzantines show a closer and keener observation of nature than that of the ancient Greeks or Romans. The acanthus foliage of the capitals, from the soft and graceful ornament of the Greeks, became crisp and sharp, like the stronger variety of the plant. The rolling scrolls, borrowed from the Romans, were given life, growth and variety. The vine especially (its significance in Christian symbolism made it specially important) became more like the natural vine than it has ever been before or since in decorative work. The grapes and the large leaves the Byzantine workman was interested in, both for their symbolic meaning and their decorative appearance; but the long bare coils of brown stem and the sudden bursting out into leaves and tendrils which are characteristic of vines in general, these were still more to his purpose, and he was more earnestly bent upon reproducing them in his work than upon giving exact representations of foliage and fruit. His barren lengths of stem he needed to frame in the lanky figures of his saints; the luxuriance of grape cluster and leaf and tendril served to fill the blanks between them. The resulting ornament is more like nature than the soft and regularly-foliaged vine-forms that preceded it. And it was the attention which the designers of early Christian times gave to the development of their own superior principles of elasticity and strength in construction that opened their minds to the perception of the same qualities in nature and enabled them to make such excellent use of natural forms in their decorations.

West Country Churches.

The Dorsetshire churches approach the Somerset type in the bodies of the buildings, but in respect of the towers are certainly not so fine, though of the same great period—the Perpendicular. The low-pitched, lead-covered roof, with its tie-beams filled in with rich tracery above, and the panelled parapets, are characteristic of both counties. Progressing still further west the county of Devon is reached, where, as a general rule, the churches are smaller and less interesting. The grand tower also to a great extent disappears. But there are several points of similarity to those of Somerset, viz. the waggon-headed ceiling with its carved bosses, the richly panelled or carved bench ends and the rood-screens, often painted. In freestones used in building Devon is not so rich as Somersetshire either in extent or in variety. Beer stone, of which Exeter Cathedral and many other fine buildings are constructed, is the most important. Granite is also used, and naturally has had the influence of making plain churches, while in the neighbourhood of Plymouth the celebrated marbles are quarried, which, however, have not had much effect on the architecture of the Middle Ages. In the north-west part of Somersetshire a peculiar type of small carved capital is seen, exceedingly like that of Devon, generally of late fifteenth or even sixteenth-century work. Sculpture figures of angels to each cardinal point of the capitals frequently occur, each bearing emblems of the Passion, or perhaps some musical instrument. The Cornish churches have several points of resemblance to the Somerset. The earlier ones were cruciform, built of sandstone; the later ones, erected during the same period, when so many Somerset ones were commenced, are built of granite. In plan the normal fifteenth-century Cornish church takes a considerable departure, and is certainly monotonous. Their span-roofed aisles of nearly equal width, prolonged from the west to the east (the latter with walls frequently flush the whole width), constitute a plan not equal to the more usual Somerset type. Indeed, the lead-covered aisle roof of low inclination, with parapet, affords more variety than the compass-shaped roofs with eaves of many of these Cornish churches. The nave and the chancel being generally under an unbroken continuous roof, the effective feature of a chancel arch is wanting, though its place is to some extent supplied by an oak rood-screen.

Eagle Lecterns.

There can be no doubt that, previously to the Great Rebellion, most village churches possessed their own eagle desk or lectern, whence the lessons were read to the people. In some instances they were made of brass, in others of wood, and eagles were most usually adopted as symbolising the angel flying "through the midst of heaven, having the everlasting gospel to preach." Those beautiful church ornaments were in many cases destroyed during the Civil War, and those which then escaped and those which have been made since are alike disused in too many instances now. Perhaps the most beautiful brazen lectern in England is that which belongs to King's College Chapel. It was the gift of that Provost Hacombleyne who has a brass in a south chantry of that chapel, and is alike admirable for the boldness and the delicacy of its ornaments. Another fine brazen lectern is to be seen in the cathedral church of Wells.

It was the gift of Dean (afterwards Bishop) Creyghton, one of the confessors for the Church during the Great Rebellion, and was an offering in token of thankfulness for the king's restoration. This lectern is now disused, and being placed in the middle of the nave considerably impairs the effect of that unrivalled vista by diverting and stopping the eye in its progress to the altar. There is a fine lectern in Ramsey Abbey Church, and one of Early English date in the church of Bury St. Edmunds. The latter now serves as the clerk's desk. The remains of a fine wooden lectern in Bridgwater Church are used for the same purpose. There are two very fine eagles in Southampton, neither of them now in use. The one which is represented as trampling on a serpent, and has its stem supported by four lions, belongs to Holyrood Church ; the other, which is somewhat plainer, to St. Michael's. There was formerly a fine eagle in the cathedral church of Bristol. It was sold by a late Dean for the purpose of being melted down, though it is but fair to add that the proceeds were devoted to the restoration of the fabric. An inhabitant of the city rescued it from this desecration and presented it to the church of St. Mary-le-Port, where it now lies useless. In this case, as in that of St. Mary Redcliffe, Bristol, which has a fine eagle not now in use, steps have been taken with a view to their restoration. In Trinity Church, Coventry, is an eagle which formerly belonged to that cathedral, and was dug up on its site. It is in use, though, contrary to primitive custom, it faces the east, and the prayers are read from it as well as the lessons. Monksilver, Somersetshire, has a wooden eagle, which appears after the Reformation to have been used instead of the reading-pew, a hole being cut in the rood-screen to enable the people to hear with the greater ease, as the eagle is on its eastern side. These wooden eagles are far more common abroad than in England. A substitute for these is the wooden figure of a deacon holding the volume in his hands, the ludicrous effect of which must be seen to be appreciated. It appears from the accounts of Trinity College, in which an item occurs of a payment "for cleaning the brasse deske," that one, probably an eagle, once belonged to the chapel of that Society, but nothing is now known of its existence. The manner in which this disappeared, as traced in the accounts, is very curious and instructive. From 1580 to 1710 a distinct payment to different servants appears among the Extraordinaries for "skowering" or "looking after the brassen deske." But in 1711 it appears for the first time under the head of "constant allowances," coupled with another item, by that time probably considered more necessary, thus :—"For looking after the charcoal and cleaning the chappel deske, 4*l.* 12*s.*" And so it goes on till 1722, the two sums of 4*l.* which had been paid for looking after the charcoal, and 12*s.* for cleaning the desk, being now paid in one sum to a person who probably had only the first office to perform. For in 1722 "the chappel deske" is transformed into a very suspicious "&c." thus :—"For looking after the charcoal, &c., 4*l.* 12*s.*" And so it goes on to 1758, when even this little memorial disappears, and the whole 4*l.* 12*s.* is paid "to H. Gordon for making the charcoal fires." The precedent is still kept up. In 1841 "to W. Kemp for lighting the charcoal fire, 4*l.* 12*s.*" And this is the way that vanish and disappear from college chapels, as well as parish churches, "brassen deskes," "altar candlesticks," and other "&c."

Christian Symbols in Egypt.

Among all the traces which the hand of succeeding ages has left upon the sculptured walls and painted columns of the shrines at Philæ—traces of which few appear more vivid than the colours laid on in the Ptolemaic time—none have so deep and melancholy interest as the Christian symbols which give token before what power it was that the old Egyptian idolatry fell at last. It is true the Persian fire-worshipper had overturned, and rent, and shivered temples and images ; but all in vain. He who shattered the Persian power, the Macedonian wild goat, was tamed by the cold, stony glare of the world-old colossal gods of Egypt, and the very horns upon his shaggy forehead, straight and sharp as a Macedonian sword-blade, curled and curved into the twisted ornaments of the sheepish countenance of a solemn criosphinx. Alexander became the son of Amùn. Greek religion and Greek art alike, when, in company of Greek despotic dynasties, they had come back to their cradle again, did, as might do the sons of some prim, old-fashioned family, who, returning with new-fangled dress and notions from long foreign travel, should, for filial reverence, cramp thought, mince speech, and cut their cloth to the fashion of the antiquated household rules once more. Rome did little else in turn, and though among Egyptian ruins a round arch of Roman span uprears itself in places, and though upon the walls of a certain building at Luxor, between the great portico and the Temple of Isis, paintings have been uncovered of Roman type, yet hawks, and rams, and owls, and ostrich feathers—the snake, the goose, the scarabee—come still together, in varied combinations, to form cartouches, which record the names of an Augustus or an Antonine, a Tiberius or a Trajan, upon shrines where Kneph, and Pasht, and Horus still preside. Nay, as we have learned from the biting verse of the satirist soldier, Osiris and Iris had invaded the capital of their invaders, and the proud Roman matrons of the latter day had stooped to the foreign superstition that lustrations, for which the yellow waters of Father Tiber were all too impure, must be performed with the not more limpid waters of the browner Nile. But on the pillars of deserted Philæ, as on those indeed of Karnak's more gigantic pile, the simple crosses carved upon the stone tell of a different tale. Those graven crosses on the pillars, as the mark of the forest lord upon the forest trees, told their doom ; and, uncut as they still remain, those trees, we know, were felled. Egypt was Christian from Pelusium to Philæ ; ay, and yet far beyond.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A GENERAL meeting was held on Monday last. Mr. Edwin T. Hall, V.P., was chairman.

The Chairman moved :—"That the Council be instructed to enter into negotiations concerning a site for new Institute premises and to report to a general meeting." Mr. John Slater seconded, and it was carried unanimously.

The following Fellows were elected :—Messrs. Reginald Blomfield, A.R.A., M.A.Oxon., F.S.A. ; Walter Cave, Howard Chatfeild Clarke, Robert Burns Dick, William Hawke, Gerald Callcott Horsley, Benjamin Septimus Jacobs, Professor William Richard Lethaby, Edwin Landseer Lutyens, Mervyn Edmund Macartney, William Cecil Marshall, M.A., Edward John May, John Howard Morgan, Ernest Newton, Segar Owen, Ambrose Macdonald Poynter, Edward Schroder Prior, Halsey Ralph Ricardo, Charles James Tait, Robert John Thomson, Thomas Harrison Thorpe, William Turnbull, Hugh Thackeray Turner, F.S.A., Edward Prioleau Warren, F.S.A., Louis Alfred Westwick, Francis Albert Whitwell and Walter Henry Woodroffe. *As Associates* :—Messrs. John Archibald Lucas and William Dathy Quirke.

Correspondence

Islington Library Competition.

Sir,—I have read a paragraph in your issue of January 5 relating to the action of the President of the Royal Institute of British Architects in the selection of competitors for and in assessing the Islington public library competition. I have no hesitation in saying that the statement does not accord with the facts, and that the inferences apparently intended to be drawn are absolutely without foundation.

I shall be obliged by your publishing this letter in your next issue.—Your obedient servant,

Alexander Graham, Hon. Sec. R.I.B.A.

Carlton Chambers : January 9.

Re the Imperial Royal Austrian Exhibition.

Sir,—By a cable message from India His Royal Highness the Prince of Wales has been pleased to intimate that he will give his immediate and generous patronage to the Imperial Royal Austrian Exhibition to be opened in London on May 1. Shall I be asking too much if I beg the hospitality of your columns for the announcement of this fact, for the mention of a few particulars concerning the objects of this Exhibition, and for an appeal to all your readers who may be interested in those objects ?

The Exhibition has been planned under the presidency of His Excellency the Imperial Royal Austrian Minister of Commerce, with the purpose of demonstrating the resources of Austria and the possibilities of her export trade, and of emphasising and consolidating the commercial and social relations of your country and my own. The Right Hon. the Lord Mayor of London has accepted the hon. presidency of the advisory committee in London; H.S.H. Prince Schönburg-Hartenstein, councillor to our London embassy, is president of this committee, and the list of vice-presidents contains a number of distinguished names, headed by that of Baron Alfred de Rothschild.

All the principal firms in Austria will exhibit, and the smaller manufacturers and smaller industries will be represented in the space reserved for the exhibit of our Ministry of Commerce. The exhibition will not only be typical of Austrian industry, but also of art and travel, and a leading feature will be a panorama representative of a journey through Austria illustrating the natural beauties of my country, while another section will be devoted to the spas and watering-places of Austria—Marienbad, Carlsbad, &c. A Tyrolean village will likewise be erected, and we shall build a Viennese theatre in which some of our most celebrated orchestras will be heard. May I add that I shall welcome the co-operation and suggestions of all who are interested in the amicable relations which exist between England and my country?—I am, Sir, your obedient servant,

G. Sizzo-Norris (Count),
Acting Austro-Hungarian Consul-General.

Laurence Pountney House, E.C.:
January 8, 1906.

Cement Works for South Africa.

Sir,—In "Notes and Comments" in your valuable Journal you state that the freights for cement into South Africa are almost prohibitive.

The writer, who is a thoroughly practical cement expert and engineer, who has erected large works in this country and paying large dividends, would be willing, if the merchants or capitalists would find the capital, to go out and erect works in South Africa on the most up-to-date system to pay first-class dividends. Paving slabs and reinforced concrete works could be established. Also I shall be glad to send any particulars as to cost of erection. Who will interest themselves in a work of this kind?—Yours faithfully,

W. Waterhouse.

Cambridge: January 3, 1906.

Caisson Construction.

Sir,—Reading the article by your New York correspondent on Mr. F. H. Kimball, in which it is suggested that problems which never before claimed the attention of architects by sinking caissons through treacherous soil were first introduced by Mr. F. H. Kimball about 1897, I should like, without disparaging Mr. Kimball's invention, to say that it is some thirty years too late to make such a statement or to claim that it had never before obtained the attention of architects.

Personally, I lay claim to the invention and its use when I was a principal in the office of the late eminent architect, Thomas Henry Wyatt, of Great Russell Street, London. I had to take charge of a difficult matter which arose at the Earl of Denbigh's mansion, "Newnham Paddox," where a very extensive addition had to be made to the already large mansion. At the commencement of operations it was found that the site was deep quicksand and most treacherous, so much so that it was not thought by many possible to build on the site without endangering the existing buildings, owing to water under the whole area.

Consultations with the most eminent men of the day, engineers from Great George Street, &c., took place at Great Russell Street. No feasible plan could be formulated that the contractor, Mr. Bromwich, of Rugby, would carry out; rather he would decline the contract, which amounted to over 20,000*l.*; but he said if Mr. Pope's principle was adopted he would undertake the contract and take all responsibility. "Mr. Pope's" proposal (Mine) was sinking caissons or drums to a solid bottom and filling them with concrete, by which they acted as piers to carry the superstructure. The system was adopted and carried out with great success; no settlement of any kind took place, to my knowledge, up to the present time. The work was done in the years 1876 and 1877. Some years after caissons were used for bridges and other works in touch with water. How far those gentlemen of Great George Street and others used or transmitted the idea I am not prepared to say, but I do say that it was I who invented and used the system in 1876, with the consent, approval and appreciation of the late Thomas Henry Wyatt. America is not always the pioneer, though perhaps well to the front, in laying claim to and appropriating ideas. We who know think little of what we know. Perhaps you will find something in this letter that will be of public interest.—Yours truly,

Henry Pope.

32 Dacre Road, Hitchin, Herts:
January 7, 1906.

GENERAL.

Mr. H. M. Cundall has been promoted to the senior keepership of the Victoria and Albert Museum, Art Division. He has for many years been attached to the art section at South Kensington, and has been responsible for the arrangement of the national competition exhibits, as well as for special shows like the Morland and those dealing with various phases of engraving.

The Institution of Heating and Ventilating Engineers will hold their annual general meeting on Tuesday, the 16th inst., at the Hall of the Institution of Mechanical Engineers, Westminster, at 7 p.m.

The Discussion on Mr. F. B. Hollis's paper, read before the Quantity Surveyors' Association, entitled "Some Thoughts on the Quantity Surveyor and his Relation to the Building Owner, the Architect and the Builder," will be resumed at the Holborn Restaurant on Wednesday next, at 7 p.m.

Messrs. Chancellor & Son, of Chelmsford, inform us that they are the architects for the secondary school, Braintree.

The Exhibition of the Arts and Crafts Exhibition Society will be open next week at the Grafton Gallery. The private view will be held to-morrow (Saturday).

The Church of St. Nicholas, West Bolton, Sunderland, which is supposed to date from 1220, was seriously damaged by fire on Monday.

The Committee of the National Art Collections Fund have notified that they have been unable within the limit of time granted by Messrs. Agnew to raise the full sum necessary to secure the Rokeby Velasquez for the nation. The total amount promised was 20,000*l.*

A Variety of the specimens of Roman pottery, beads and ornaments, found at the Roman baths in Penydarren Park have been arranged and deposited in the Merthyr town hall. The relics date from the latter part of the first century up to the end of the Roman occupation. In another part of the park there have been unearthed the foundations of an extensive granary, such as generally formed part of a fortified camp, and there are many indications that there was at one time an important Roman settlement on the spot.

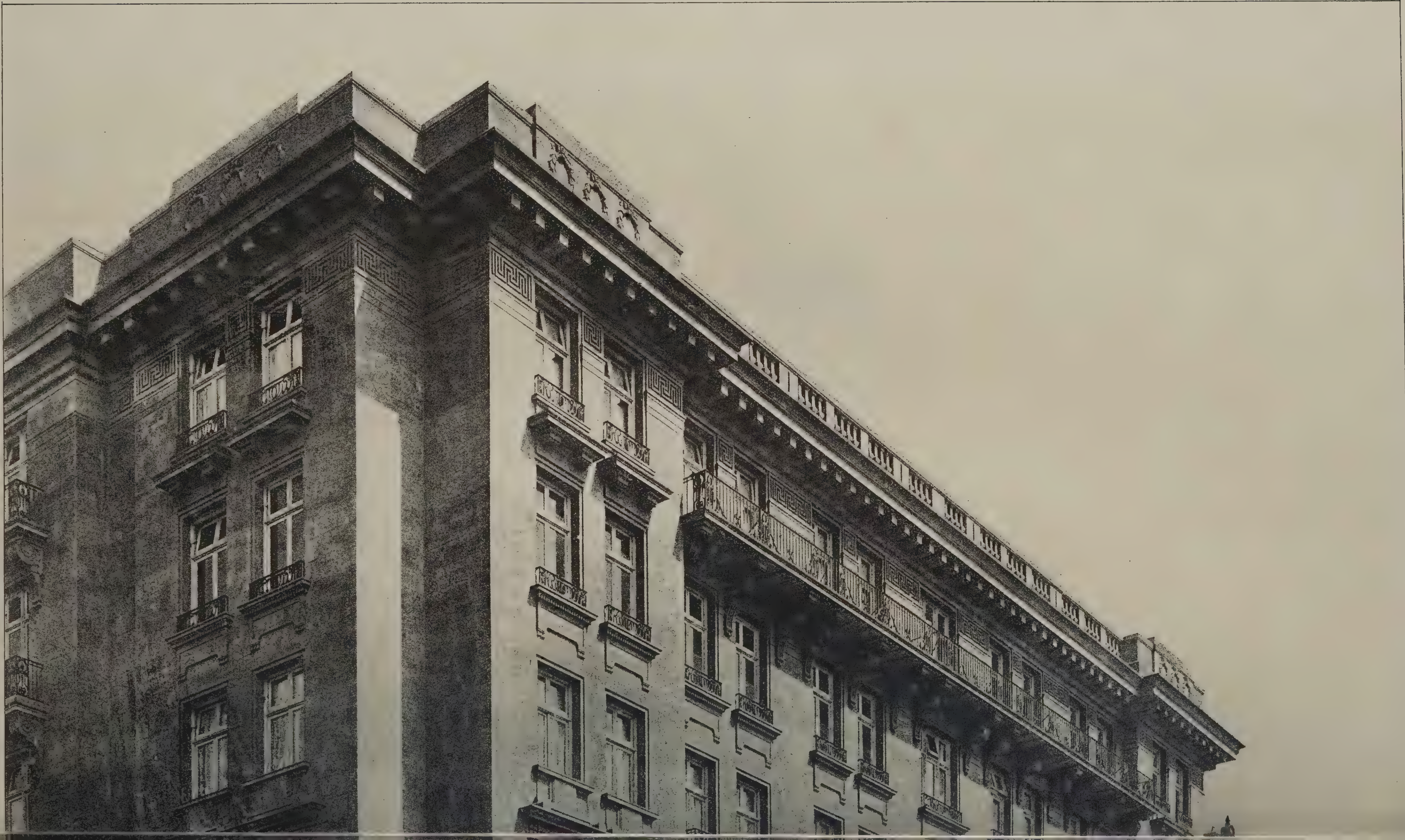
The Holborn Borough Council have been recommended by a sub-committee to oppose the General Powers Bill of the London County Council in respect of the provision empowering the Council to provide buildings for exhibitions of works of art, &c. Having regard to the increasing financial burden on the ratepayers of London, the committee expresses its hostility to the granting of a general power of this nature without any financial restrictions.

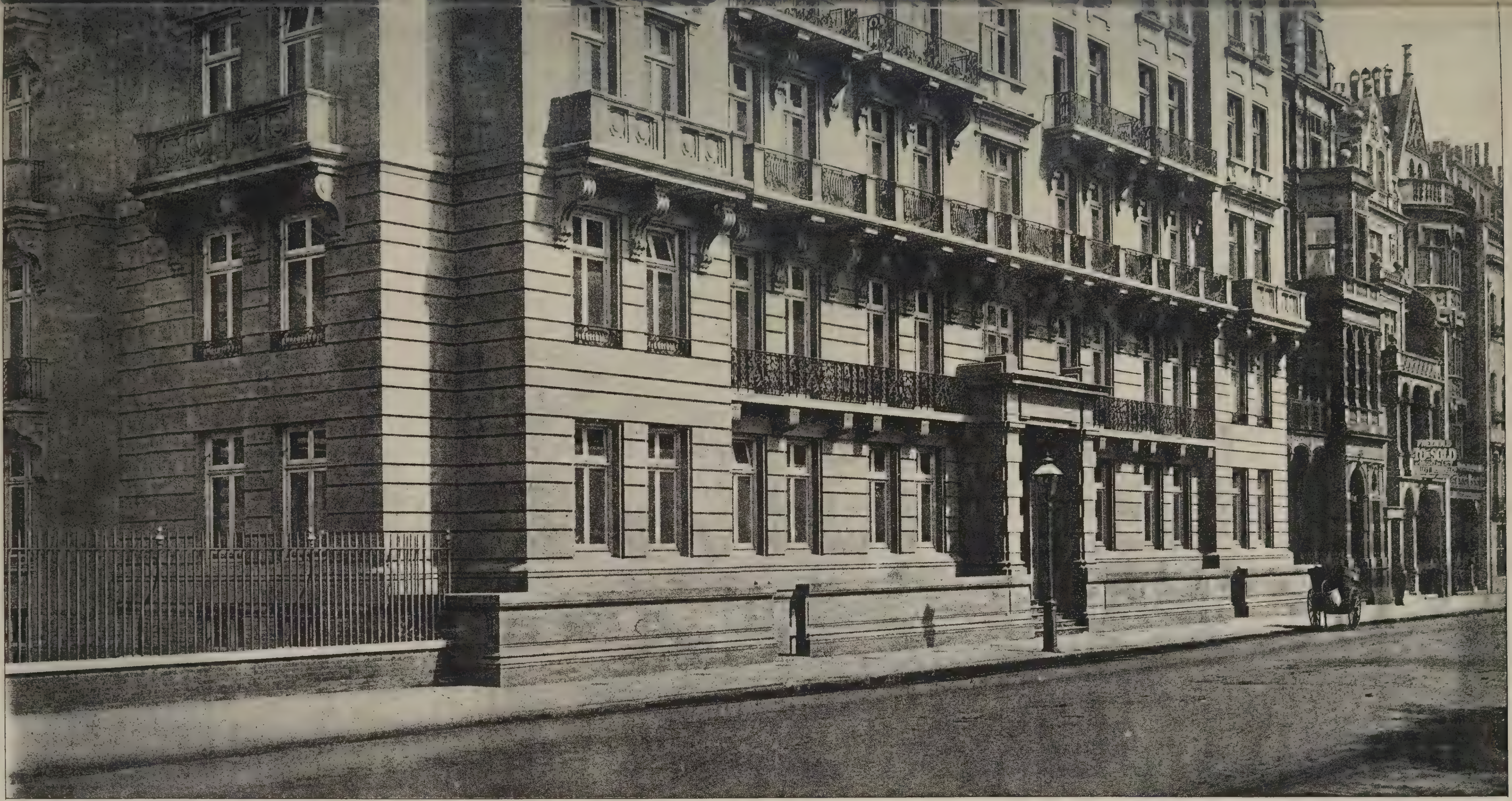
The Liverpool Cathedral executive committee at a meeting on Monday were informed that the total subscribed for the purpose of the cathedral now reached the sum of 250,000*l.*, while the amount required for the completion of the first portion of the building was 340,000*l.* The clerk of works reported that the foundations would be completed at the end of February, within the contract time, and arrangements were made for obtaining tenders for the erection of the main building.

Mr. William H. Thorp, architect, has removed his offices from No. 61 Albion Street to Phœnix Chambers, South Parade, Leeds.

The Proposal to invite six architects to compete for the offices of the Holborn Borough Council was on Wednesday referred back for further consideration.

The Irvine Dean of Guild Court have passed plans of a school which the Burgh School Board proposes to erect at a cost of 7,000 in Cochrane Park. The new building is to be of two storeys, built of white sandstone, and will accommodate 600 children. The classrooms for the lower classes are to be situated on the ground floor along with cook and laundry classrooms and a central hall suitable for drilling children in, while the upper storey will be devoted to the work of standards two, three, four, five and six. Low-pressure hot-water pipes are to be fitted throughout the building for heating purposes.





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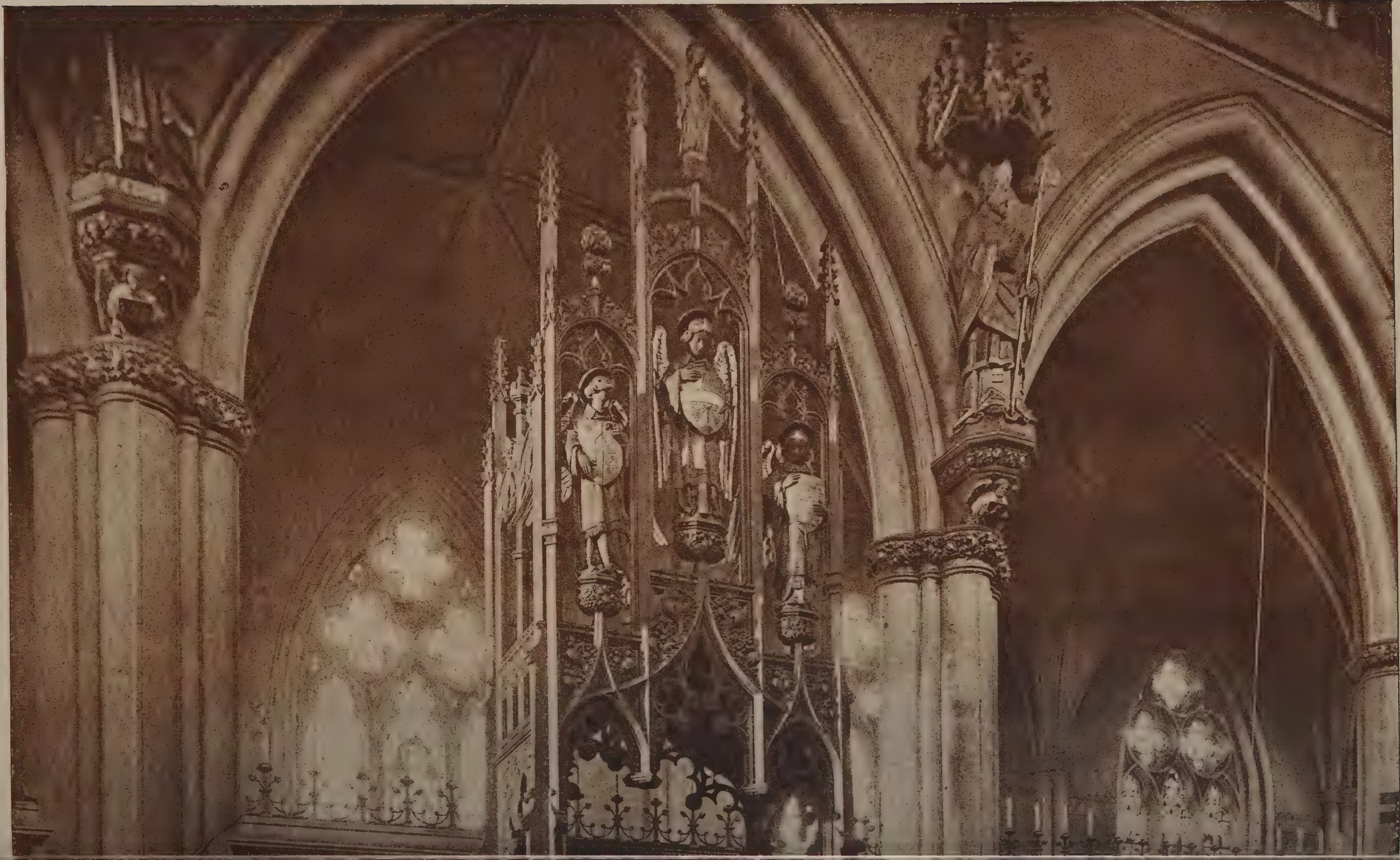

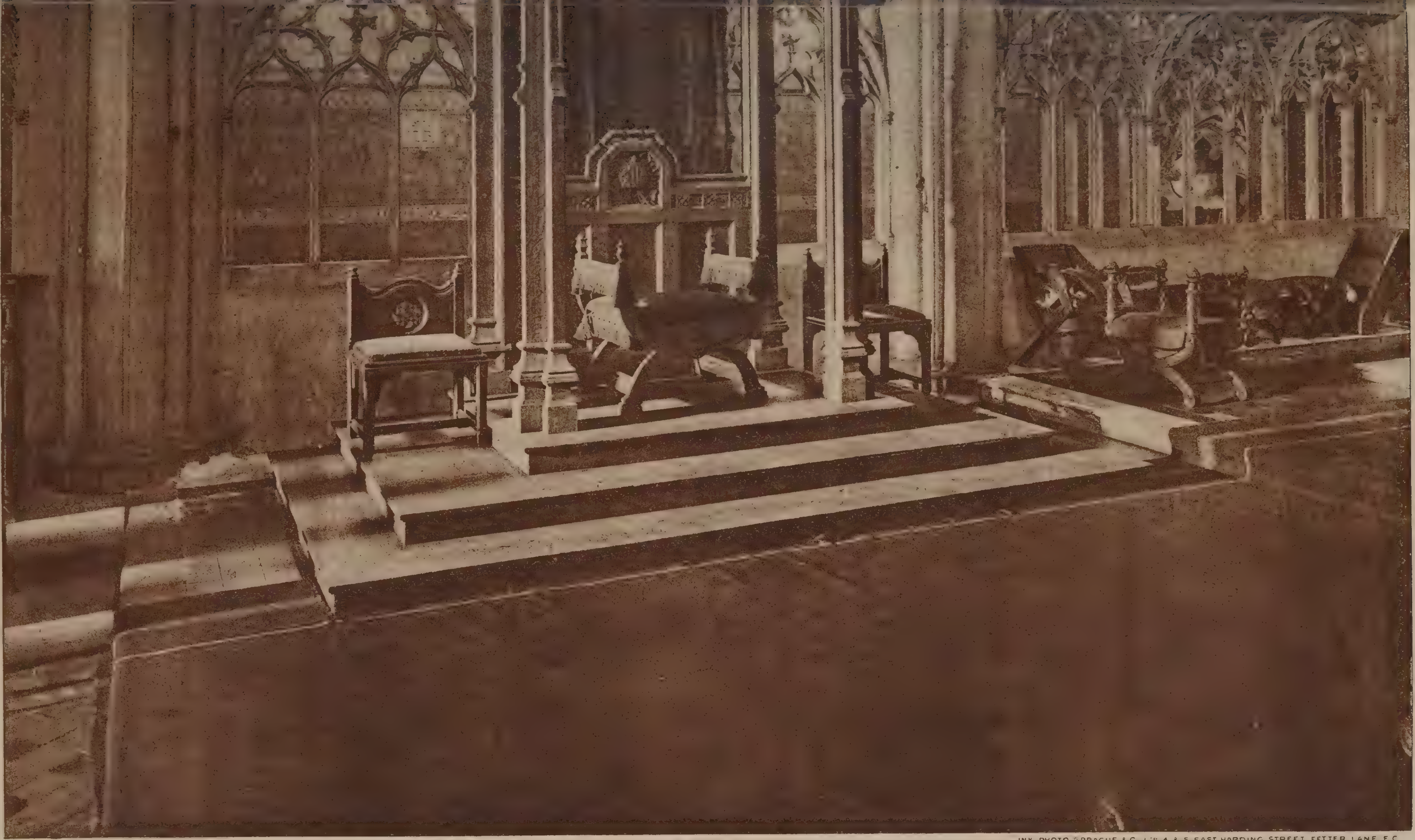

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BISHOP'S THRONE, ROMAN CATHOLIC CATHEDRAL, SALFORD.

WILLIAM RANDOLPH, Architect.

OF
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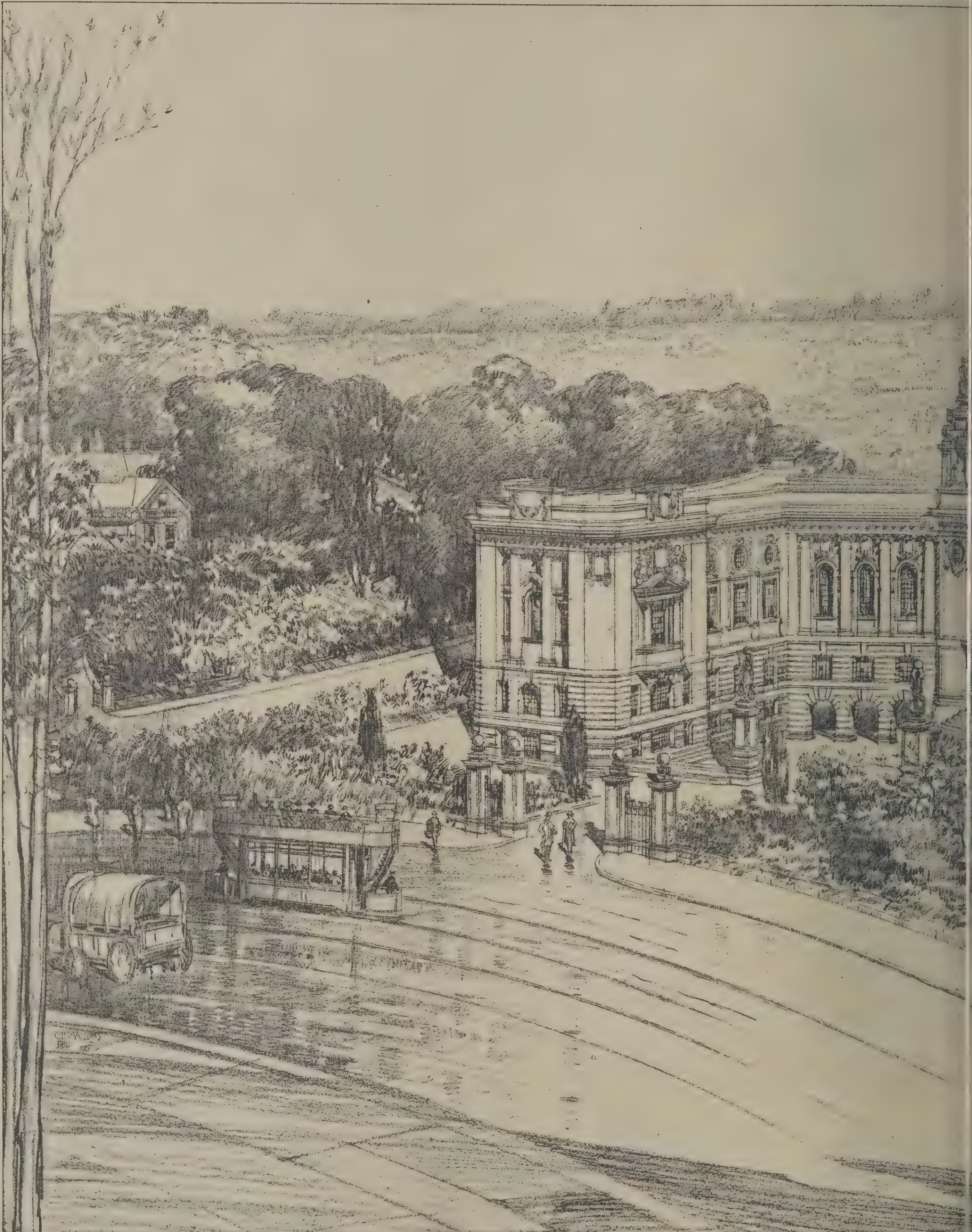
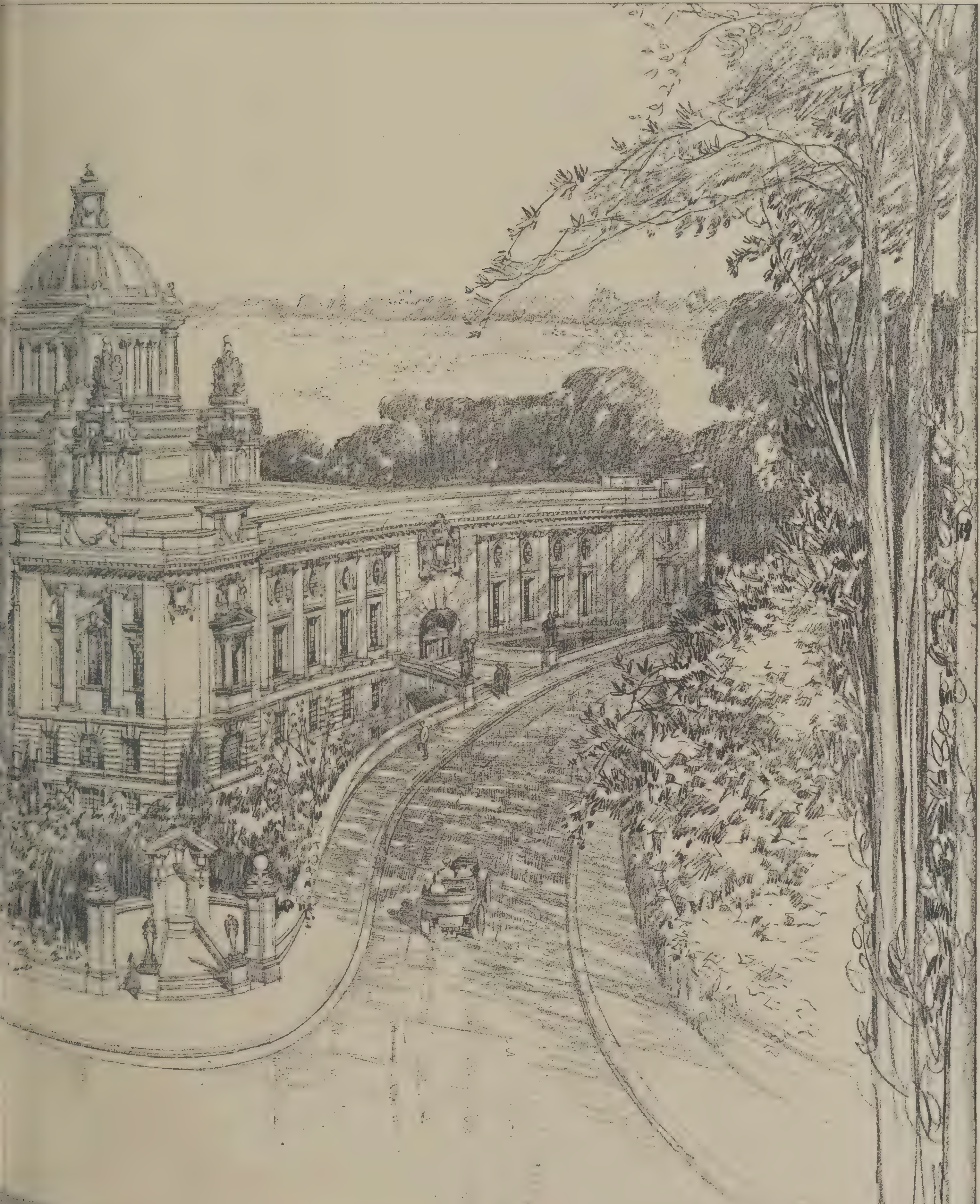


DESIGN FOR PROPOSED MUNICIPAL BUILDINGS, L

By C. E. MALLOWS, F.R.I.B.A., Architect (in conj



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COURTS, AND TOWN HALL FOR BOURNEMOUTH.

with F. W. LACEY, M.Inst.C.E., Borough Engineer).

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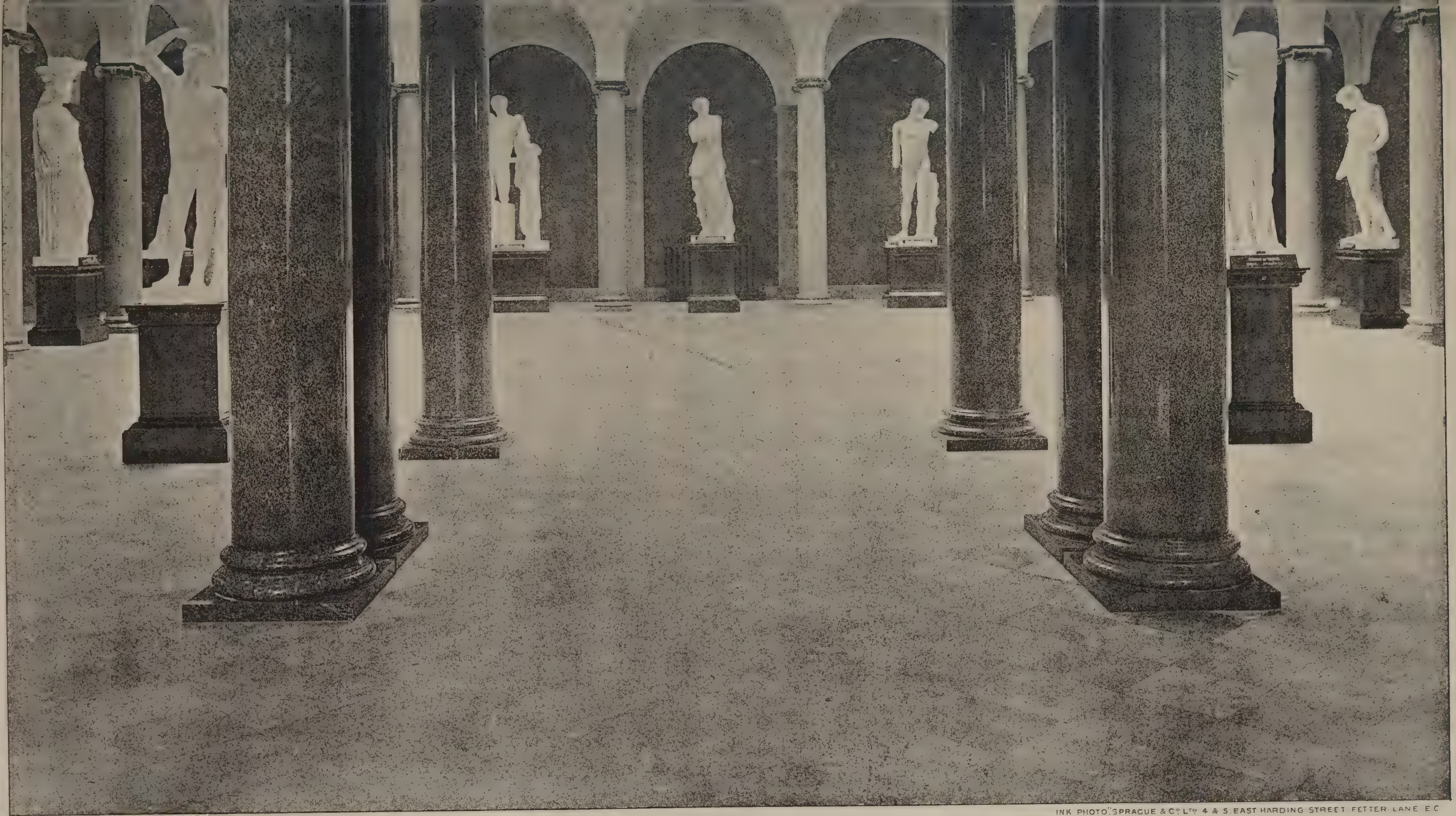

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SCULPTURE GALLERY, ABERDEEN.

Messrs. A. M. MACKENZIE & SON, Architects.

The Architect.

THE WEEK.

It is usual in drawing up a submission to arbitration to fix the time for making the award, which can, however, be enlarged under a rule of Court, or by agreement between the arbitrators if two are employed. The consequence of being a single day behind the time agreed upon was exemplified on Monday in the Irish King's Bench Division. Messrs. Gregg & Co., timber merchants, brought an action against a firm of timber exporters in Canada in respect of the quality of timber. It was to be supplied in three shipments and delivered in Belfast in July, September and October, 1904. As the shipments received in July and September were declared to be not in accordance with the terms of the contract, the question was referred to arbitration. The defendants were ordered to pay 690*l.* The shipment arriving in October was likewise refused on account of its quality. The arbitrator's award was found to be a day in arrear, and no apportionment was made in it between the two shipments, although it was alleged that each was equivalent to a separate contract. The case was then brought into Court, and the action was tried in Belfast. The jury assessed the damages in respect of the first shipment at 230*l.*, and 460*l.* for the second, the total amount corresponding with the arbitrator's award. The damages on account of the third shipment were assessed at 105*l.* The Chief Baron, however, entered judgment for the defendants on the ground of the informality of the award, and it did not apportion the parts for each shipment. Application was made for a new trial, or that the judgment of the Chief Baron should be set aside and judgment for 795*l.* and costs should be entered for the plaintiffs. The Court, consisting of the Lord Chief Justice, Mr. Justice Madden and Mr. Justice Wright, unanimously affirmed the judgment of Chief Baron Pallas. Never was the necessity of having awards presented in a rigorously correct form more remarkably demonstrated.

A meeting of the Architectural Section of the Royal Philosophical Society of Glasgow was held on Monday, when a paper on "Mortar" was read by Mr. Samuel Smith, clerk of works at the Technical College. That building stands on the site of the Andersonian University, which was probably the earliest technical college in Great Britain. The founder was a professor of natural philosophy in the university, and he felt it part of his duty to visit workshops in order to see the practical applications of science. All he possessed at his death he left for the instruction of artisans and others. Mr. Smith was able to exhibit specimens of the mortar used in the foundations of the building. On analysis this mortar was found to be composed of one part of Roman cement and one part of sand. This mortar was in a perfect state of preservation, while the ordinary Scotch lime mortar used for the rest of the building was friable and rotten. Mr. Smith was of opinion that this mortar was prepared in 1836, nearly seventy years ago. Another sample shown was a piece of mortar composed of one part Arden lime, one part engine ashes, and one part freestone shivers, ground together in a mortar mill. This, to judge by the sample shown, made a first-class mortar. The subject has importance, for there is a misgiving that in Glasgow defects are not unusual in modern buildings.

The crime of arson has always been looked upon as one of the most serious which can be committed. By English law, however, a curious distinction was made, viz. that the house must belong to another person than the perpetrator. To burn one's own house, especially in a town, was only a misdemeanour. Early in the late Queen's reign a great change in the old law was introduced, and it was declared to be a felony to set fire to a dwelling-house, a person or persons being found therein. It is easy, therefore, to understand why Mr. Cluer, the magistrate at Worship Street, should hesitate about committing a prisoner for felony or for misdemeanour. The man was charged with feloniously setting fire to a dwelling-house. As a fact, he was no more than an occupier of a part of a model dwelling in Bethnal Green. It was alleged that he had set fire to clothes and other materials in the room he rented, but he claimed that he could do what he liked with his own goods. There is no doubt his flat was a dwelling-house, but he was the only occupant of it. It could not, therefore, be said that there were other persons present when the dwelling was set alight. When the Acts relating to the subject were created model dwellings did not exist, and a great part of the provisions relate to farm-buildings, hay, straw, wood, &c. Mr. Cluer left it for a judge to decide, and the prisoner was, therefore, committed both for arson and for the setting fire to his own goods to the danger and injury of his neighbours.

It is often difficult to account for the loss of interest in various parts of Paris. It seems to be a law that population, or the wealthiest part of it, must move westward, and the old districts fall into the hands of people of a different class. This remarkable variation seems so much of a law that some people consider the old Quartier Latin would lose its character if it were not for the number of educational institutions which are to be found there alone. The Municipality of Paris wish to convince the citizens that the districts which are deserted by the people of fashion are still possessed of much artistic interest. On Monday an exhibition was opened in the Petit Palais which consists of photographs from two of those waning districts, viz. the Marais and l'Ile Saint-Louis. Many of the big mansions in the Marais are now utilised as workshops which are connected with the production of *objets de Paris*. The earlier stages may be gone through elsewhere, but much of the delicate work in jewellery, bronzes, &c., is performed in rooms which at one time were occupied by people of rank. Notre-Dame and the Morgue generally terminate the excursions which visitors to Paris make on the eastern side. L'Ile Saint-Louis is further eastward, and it still contains residences which almost deserve to be described as palaces. The photographs will be a revelation to many people who live in Paris, and they afford architectural studies of great interest. The exhibition will be open for a month only.

The latest report of the Royal Museum at Berlin is an important document, for it is evidence of the efforts which are made to secure collections which will exemplify a great variety of artists' work. Importance is attached to the portrait of Sir Joshua Reynolds by himself and to a landscape by Richard Wilson. From England was also obtained an early example by Murillo, an *Adoration by the Shepherds*. A fragment of a Byzantine relief representing the history of Joseph came from Constantinople. From an English collection was derived a fine lunette by Luca della Robbia representing the Madonna between Angels. It dates from 1450. Another example has for subject the Blessed Trinity. There are several examples of painted wooden statues. From Miletus casts of sculpture were obtained. A collection of no less than 593 specimens of Arabic glass has been presented by Professor Moritz of Cairo. Another present is a collection of weapons and ornaments of North American Indians, as well as several water-colour drawings and sketches depicting their ordinary life. This brief abstract is enough to show the comprehensiveness of the museum, and in a short time it will not be necessary for Germans to travel beyond Berlin when in search of fine art or industrial arts.

JACQUES LOUIS DAVID.

EVERYONE knows of the custom prevailing in the French Academy by which it is incumbent on each new Academician to deliver an eulogium on the member to whose chair he succeeds. On Thursday of last week it therefore happened that M. Etienne Lamy, who is a politician and was once a minister, should endeavour to draw the character of Eugène Guillaume, the sculptor, and for many years the director of the French School at Rome. It was generally known that M. Lamy could only have taken as much interest in the arts as the average French gentleman. But in the Academy literary rather than technical knowledge is desirable. The Academy was established to uphold a standard of language by which French literature would be preserved against foreign innovations, and M. Lamy as a champion of tradition found little difficulty in demonstrating that in what are known as the Fine Arts it is desirable to have the same sort of reverence for the past which the Academy is supposed to exemplify in respect to writing and talking.

Eugène Guillaume was an extremely fastidious artist, and in consequence of the difficulty of reaching the high standard to which he aspired he left very few works which will enable posterity to judge of his merit. M. Lamy referred to one instance. Judging by the quantity of copies of Canova's bust of Napoleon which appear every season in London sale-rooms, it might be supposed that the head was easy to produce. Eugène Guillaume, wishing to realise his own idea of Napoleon, made no less than eight attempts. But he was satisfied with none of the busts. His failure with the head, of which French artists have a very definite idea, was enough to suggest the difficulty of reconciling tradition with modern ideas.

For more than a century many French artists have given up a similar task and have endeavoured to follow new lines. David, the painter, was one of those innovators, and it can scarcely be said that his influence is of no account in modern times. M. Lamy considers that his Jacobinism was not confined to politics, and that his political fury inspired his fanaticism for antiquity. David believed that the two peoples by whom citizens were most appreciated were able to produce the most perfect figures of men and women, and it is to the ancient artists moderns should go for the highest examples of art. According to M. Lamy, David was not the first revolutionary who broke chains in order to forge them into others which would be heavier.

It is the fate of every great artist to have his characteristics put under the microscope, and slight faults in consequence are magnified to a remarkable degree. David has, moreover, the disadvantage of having been a revolutionary, a member of the Assembly which voted the death of Louis XVI., and of having sacrificed his principles so as to gain the favour of Napoleon. It is hardly fair to condemn enthusiasts who lived in Paris in the time of the Revolution. Poets and artists believed that a new era was coming in which ability was to prevail. Wordsworth, Coleridge and Southey were staid Englishmen, and yet all three championed the French Revolution. David was born in 1748; he had, therefore, passed his fortieth year when the Revolution began. But he had attempted some years before a revolution of his own in painting. He was a grand nephew of Boucher, whose works had special attraction for many of the grandees of the time. But David, who was an orphan, was placed by his uncle not in the painter's studio, but in an architect's office. The influence of that short period of his training on his future works is unmistakable, although Edmund de Goncourt is the only critic who has noticed it. The "anatomies" of David, he remarks in his "Journal," are not the drawings of a painter, they are the diagrams (*épures*) of an architect. Indeed, Thackeray, in describing David's heroic work, made use of printer's rules or lines in order to suggest the attitudes of the figures. Apparently David grew tired of making geometrical drawings, and sought to become a pupil of his relative. Boucher, however, sent him to Vien, who afterwards became the Director of the French Academy at Rome.

At the time there were two influences at work in painting. One was academicism, which favoured only high art. The other was the regard for everyday life which Greuze and Chardin had shown, and which Denis Diderot had advocated. Vien endeavoured to follow a middle course by imparting to modern figures some of the grace and dignity of the antique, and his compromises are unknown. David preferred the former, and in 1771 he competed for the Prix de Rome with *The Combat of Minerva against Mars and Venus*, which was not successful. Four years later he gained the prize with his *Antiochus and Stratonice*. That he was not indifferent to reality is evident from the portrait of himself, which represents him as he appeared between the two compositions, and which, like his later portraits, is remarkable for its simplicity and apparent accuracy.

About the time when he visited Rome ancient art was studied under new aspects. Winckelmann's works had appeared. Lessing had demonstrated the difference between poetry and sculpture, and Raphael Mengs had described in detail the qualities of the principal painters. David set to work according to the prescribed rules by making copies in the Vatican. It is, however, strange that after his return to Paris in 1780 he produced, instead of a classical scene, an incident in the life of St. Roch, as if he anticipated commissions for paintings to be set up in churches. About that time the thoughts of men were being directed towards the constitution of society in an earlier era, and especially in Greece and Rome It is remarkable as indicative of the notions which were then abroad that the Director-General of the Roya Buildings gave David a commission for two paintings from Roman history, viz. the *Oath of the Horatii* and the *Lictors carrying the Body of his Son to Brutus* The Comte d'Artois, the king's brother, also ordered the *Amours of Helen and Paris.* If such subjects appear foolish to us it should be remembered that host of authors had familiarised them by their writings Most of the tragedies which were seen on the stag were inspired by Graeco-Roman themes. The paintings which David produced were nearly all derived from antiquity. Between 1785 and 1789 he was recognise as the principal painter in France. The people accepte his pictures as if they were historical treatises, and i looking on them they imagined they were brough nearer to the heroic days. The history of the Frenc Revolution reveals to us that for some time before th taking of the Bastille there was a ferment in Paris. I was a time of attitudinising, and in no collection o paintings could so many stilted attitudes be seen a in those of David. If he was a factor in many of th events there is no doubt they operated upon him i return. David revealed a new phase of his talen when he began to paint revolutionary scenes. I representing the taking of the oath in the ball cou at Versailles he had a memorable subject, and peop were surprised by such an approach to realism. Bu the strange thing is that owing to the preceden he set by his Greek and Roman scenes, nobody ca believe that the Deputies over whom Bailly, th astronomer and mayor of Paris, presided, went throug the solemn act in the manner shown by David. The were two other scenes in which he was more restricte and which are therefore likely to be more accurat One is the *Death of Marat*, which he offered to th Convention, in which he introduced the bath and th sordid accessories of the terrible veterinary. Anoth picture was the *Death of Lepelletier*, a member of th Convention, who was killed by one of the royal guard

It is inexplicable that a man who was a realist w unable to recognise the limits of his powers. Wh was worse, during thirty years he endeavoured compel a multitude of young artists who entered h studios to believe that antique subjects alone were worthy of the pencil. And yet by one of those anomalies which are so often found in able men, he used all his power with his fellow legislators to suppress the French Academy of Art, which had done so much to keep artists in what may be called a classical groove. It is no wonder he was called the tyrant of the arts, and probably the reason for his enmity against the Academy was that it prevented him from having despotic control, over painting at least. As long as Robespierre held sway David apparently could give his ill-nature, which he called patriotism, full license. But when the deputy for Arras fell, David found himself in the prison of the Luxembourg. It speaks well for him that his pupils demanded his release, and refused to accept any other teacher. He was set free, and returned to his art with renewed energy, in the hope that he would at length make the antique supreme in art. Yet, strange to say, M. Etienne Lamy considers David to be an innovator rather than an upholder of tradition.

It speaks well for Napoleon's insight that when he became First Consul he displayed a partiality for the man who had organised Feasts of Reason and other novel festivals. Bonaparte seemed to think that the painter of Greek and Roman subjects had trained himself to serve for the representation of events which were forthcoming. He proposed that David should paint his portrait. The artist wished his subject to pose for him, but the general thought that would be an absurdity, as he did not believe the great men of antiquity had done so. David said he painted for contemporaries who would wish his work to resemble the original. Bonaparte replied that resemblance did not consist in the exactitude of the features, but in the character of the physiognomy and the expression of the power animating it. David said that the First Consul was teaching him his art, as he had never painted a portrait of that kind, and he promised that it should be done without any posing. The result was the picture of Bonaparte mounted on a fiery steed which stands on its hind legs on the snow or ice, while the Consul appears to be addressing his men and pointing to the plains of Italy as if they were situated in the clouds. The work is an absurdity. Bonaparte has recorded that he rode with difficulty a mule which the Prior of the Convent of St. Bernard had assured him was the surest-footed in the district. Sainte-Beuve, however, was of opinion that it was not David who imagined the fiery steed in such a place, but that the idea came from the Consul himself. It is remarkable that the picture was accepted by Frenchmen as depicting a reality, and it was not until many years had passed that Delaroche ventured to represent the incident as it occurred.

The Alpine scene won for David the appointment of first painter to the emperor after the termination of the Consulship. He received a commission for four great paintings, viz. the *Coronation*, the *Distribution of Eagles*, the *Enthronisation*, and the *Visit to the Hôtel de Ville*. The first and second were alone completed. In the *Coronation* it was not the Emperor, but the Pope, who appears as the principal figure. In the *Eagles* he intended to introduce symbolic figures among the clouds, but was not allowed. In other words, he could not get rid of reminiscences of old conventionalities.

The fall of the Empire compelled David to seek refuge in Brussels. Many young artists followed him, for it was still believed that he was a great master. While in exile he continued his endeavours to dictate what should be done by French painters. He persevered with appeals to those who attempted to depict scenes which were the glory of Frenchmen of the time. To him Plutarch presented more fitting subjects for a painter than the volumes of the *Moniteur*, which recorded so many French victories. The works which he produced in Belgium do not redound to his fame. But it must be allowed that he had none of those incitements which were necessary for a man with such a history. He lived until the end of 1825, and his patriotism was proved by his rejection of the office of Minister of Fine Arts in the Prussian Government, which was offered to him, and which was a sign of the esteem in which he was held. Like Napoleon, he wished to be buried in a Paris cemetery, but the French Government would not allow the remains of the old regicide to cross the frontier. The incident was made the subject of one of Béranger's songs.

Thackeray in his young days, when he was an art student in Paris, described David's large works as silly affectations and as "improvements" upon nature. According to him the man had a genius for painting portraits and common life, but must attempt the heroic and carry a whole nation blundering after him. Thackeray believed it was the romantic young adventurers who issued from the castle of Abbotsford that overcame the heroes and demigods of Greece and Rome. Classicism succumbed to romanticism. In other words, all the rules and regulations which generations of artists had obeyed were set aside. But the hardest fate of all is to find that the latest French Academician is of opinion that the painter who believed in the classical dictionary as the *vade mecum* of artists should now be declared as no more than a Jacobin who inspired artists with disrespect for antiquity.

AN ACADEMY RECORD.*

We have again to compliment Mr. Algernon Graves on the punctuality with which his fourth volume is delivered. Although the intervals between the volumes are so short there is no sign of haste, and, indeed, the appearance of the pages is satisfactory as examples of typography. Everything has been done to facilitate reference.

The new volume recalls on an early page the tragedy of Benjamin Robert Haydon. He entered the Academy as a student in 1804, when he was in his eighteenth year. In 1807 he sent a Scripture painting, *Joseph and Mary resting with our Saviour after a Day's Journey on the Road to Egypt*. Afterwards he returned to Plymouth, his native place, where he painted portraits. In 1809 he exhibited his *Dentatus*, which subsequently gained him a prize of 100 guineas from the Royal Institution. About this time he quarrelled with the Academy, and it was not until 1826 that another work by him was seen. He exhibited also in 1827 and 1828, and then there was a long interval during which he was absent. He reappeared in 1842, 1843 and 1845. In 1846 he put an end to his life. There is no need to comment on his career. Sixty years have not demonstrated that Haydon was a man of great genius. He was an enthusiast, and he helped to convince people of the value of the Elgin marbles. But his works are not more admired now than they were by his contemporaries.

It is curious that one of the first names in the volume is that of Thomas Harrison, the architect who induced Lord Elgin to take an interest in the remains of the Parthenon, which afterwards helped to encourage Haydon in the belief that through recognising them he was superior to the majority of painters. Harrison found a patron in Lord Dundas and was enabled to live for several years in Rome. In 1773 he sent four architectural drawings, and in 1777 part of a design for the Piazza del Popolo, the principal entrance to Rome. In 1779 there was a design by him for a national monument to commemorate great public characters, and in 1814 he prepared "A national building to record by painting and sculpture the victories of the Marquis of Wellington and the other commanders by sea and land during the present year." He erected several bridges, one at Chester having a span of 200 feet, and he sent two elevations of a bridge across the Thames to the

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* *The Royal Academy of Arts.* A Complete Dictionary of Contributors and their Work, from its Foundation in 1769 to 1904. By Algernon Graves, F.S.A. Vol. IV., Harral to Lawranson. (London: Henry Graves & Co., Ltd., and George Bell & Sons.)

Academy. J. Harvey in 1787 had a design in the Academy for the Menai bridge, with an arch of 400 feet span. Among his other designs were some for a national prison, a musical theatre, an observatory, a Parliament-house at Westminster, a shire hall, and a London Bridge of cast-iron. His son seems to have followed a similar line, one of his designs being an approach to a palace with bridge, observatory and boat-house. As we remarked in noticing the early volumes, architects towards the close of the eighteenth century were fascinated by temples, and, like George Hawkins, were ready to devote them to Peace or to Jupiter. E. Haycock appears as the author of a mausoleum, an academy of arts, a college and a Temple to Fame.

The late C. F. Hayward, who recently died, began to exhibit in 1825 with a design for a Venetian palace, water façade. The last time his work appeared on the walls was in 1894; it was a "Mansion opposite the British Museum." J. Hayward, of Exeter, exhibited between 1826 and 1855. Henry Holland, who was the architect of Dover House and of the portico of Carlton House, does not appear to have exhibited. But his nephew, Richard Holland, is entered for four designs. Thomas Hopper found favour with the Prince of Wales. In 1807 he exhibited designs for a conservatory at Carlton House, and he erected several important buildings. In 1837 he had a design for the new Houses of Parliament, and in 1846 one, and probably the last, of those compound buildings which were intended to serve a great many purposes, viz. "To Nelson and his companions in arms; a design forming part of a series to combine in one group a gallery to receive annual prize pictures in commemoration of the brilliant victories achieved by British arms, a national gallery and exhibition rooms for the Royal Academy." Hector Horeau, the French architect, was a rival of Paxton in designing exhibition buildings of glass and iron. In order to prove his ability, a bird's-eye view of the most important building erected by him was hung in 1852. William Hosking was for a time Professor of Architecture at King's College, and became one of the official referees under the Building Act. He was only once an exhibitor in the Academy, in 1826, with a drawing of the "Temple of Juno Lucina at Agrigentum in Sicily, taken on the spot in April 1824." It may here be mentioned that Mr. Alfred Hudson, who is the legal member of the Tribunal of Appeal, exhibited some of his architectural work in 1877 and 1881.

The late E. I'Anson, who was President of the Institute, began to exhibit in 1830 with a design for a church and cemetery. In 1837 he sent two views from Athens, but afterwards his subjects were mainly buildings in the City. W. S. Inman proposed in 1821 the erection of a cenotaph to the three Presidents of the Royal Academy of Arts. But no admirers were forthcoming to supply the money.

The name of Inwood is associated with the church of St. Pancras. It was the work of William and Henry William Inwood. In 1819 and 1821 six drawings of the building were shown. There were also views of a chapel in Regent Square, St. Pancras, Camden chapel and an Athenian Ionian garden temple for the Earl of Onslow at Clandon. William Inwood and Henry William Inwood contributed other drawings singly, the latter sending a design for a garden seat when he was in his fifteenth year. Charles Henry Inwood and E. Inwood were also exhibitors. J. Ireland, who was an exhibitor from 1808, designed in 1818 a model of a Temple of Victory which was to commemorate Waterloo. The following description will suggest its character:—"The allegorical groups are Alexander taming Bucephalus, and Hercules striking off the last head of the Hydra. Mottoes: Domitari tyranni, Victor tyranni. The interior is 100 feet in diameter; in the centre is a statue of the Prince Regent, grasping with his right hand a medallion of his royal father; opposite to H.R.H. is the hero of Waterloo surrounded by his brave companions in glory." It is fortunate that so few memorials of the war with France were carried out.

Owen Jones was supposed to have sent only one drawing to the Academy. But several from his hand were to be seen, although it must be said few of his designs were carried out. In 1831 there was a design by him for the Town Hall, Birmingham. For nine or ten years he found more congenial work. In 1835, 1838, 1839 and 1840 the architectural room must have been attractive from his drawings of the Alhambra. In 1840 he also sent a design for St. George's Hall, Liverpool. In subsequent years his works were a villa, a dairy, a gallery and a ceiling, which are evidence that so able an artist was never recognised at his true value. Henry E. Kendall is credited with a large number of buildings. The late Professor Kerr was the author of designs for such ambitious works as the Palais de Justice in Brussels and the Berlin Parliament-house. But his principal building was the mansion "Bearwood," for Mr. Walter, of which there were three drawings. By John Thomas Knowles are a mansion at Silverton Park, a chancel at Reigate, and the Grosvenor Hotel.

In going through the pages one is struck by the large number of drawings of which apparently no use was made. During several years after the Academy was opened competitions were unknown, and architects were spared the losses which they involved. But a substitute was found for them by the architects themselves in designing Pagan temples, memorials of kings warriors and statesmen, and, for those whose ambitior was of a more modest kind, the furniture for rooms People sometimes speculate about the fate of the paintings and the busts which were once exhibited anc which have lost all interest. But for architectura designs, imagination cannot find any use. Speculative builders would decline to employ the greater part of th designs for mansions hung in the Academy. That doe not, however, affect the value of Mr. Algernon Graves' work, which will be the most complete record ir existence of the efforts made by artists in Grea Britain.

PLANNING OF CREMATORIA AND COLUMBARIA.*

THE subject of provision for the disposal of the dea cannot be said to be one of the most pleasant tha could be selected for a discourse. I venture to hope however, that we shall spend an hour profitably in discussin the principles of planning crematoria and columbaria. It i refreshing to know that we shall be in good company i our contemplations; that men of literary capacity, such a Professor Rolleston, the late Bishop of Manchester, S Thomas Brown and Sir Henry Thompson are only a fe of those who have used their pen and mind to furthe cremation. Their judgment will encourage us, and we ma feel justified in using an evening of this Society's syllabu to discuss a subject upon which the architectural professio at present possesses little information.

Cremation, or the burning of human remains, was th general practice of the ancient world, with the exception Egypt, where bodies were embalmed. In Rome, from th close of the Republic to the end of the fourth Christia century, burning was the general rule. The Siamese hav a similar institution, according to which, before burnin the embalmed body lies in a temple for a period dete mined by the rank of the dead man—the king for si months, and so downwards. If the poor relatives cann afford fuel and the other necessary preparations, they bu the body but exhume it for burning when an opportuni occurs. In our land the age of reason had its perio cremation was practised by the Druids and early Englis Proof of this can be found in the British Museum, whe there are many examples of unburnt clay urns which hav been unearthed in various parts of the country.

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* A paper read before the Society of Architects, Londo January 18, by Albert C. Freeman (member), author *Crematoria in Great Britain and Abroad*, &c.

After all that has been said upon the subject it remains a fact that, to the minds of some, the idea of reducing the human body to ashes by means of fire will be obnoxious. All the arguments and facts which may be presented to show the baneful effects of earth-burial may be admitted. It may be accorded that in far distant lands cremation may be necessary, but when the question is brought so near home as to embrace the possibility of subjecting one's own body there is a shrinking from the thought. Burial in the earth is a method of disposition with which all are familiar; if our minds come to consider the revolting process of inhumation, it is instantly put aside. Immediately, however, a new method is brought before our notice it is these features which first engage our attention.

After having seen the process of incineration I must say that my feelings are completely changed; the method of destroying the dead by burning is more decent than that of inhumation, and I would rather see the remains of my dearest friend cremated than buried in the earth. The re-awakening of the public mind to the importance of the subject of cremation was brought about by the late Sir Henry Thompson, in an article published in the *Contemporary Review* in 1874. In 1879 the Woking Crematorium was erected, but as the Home Office prevented its utilisation it lay idle for many years. In 1883 a cremation took place in Wales in defiance of the coroner's authority, followed by legal proceedings. These resulted in 1884 in the decision of Mr. Justice Stephens declaring that cremation was a legal procedure provided that it was performed without nuisance to others. In 1884 the House of Commons refused to pass a Bill for the regulation of cremation; the Cremation Society of England, however, backed up by the decision of Mr. Justice Stephens, opened the crematorium at Woking, and on March 20, 1885, it was used for the first time, the body of a lady being cremated. Since then crematoria have been erected at Manchester, Hull, Liverpool, Birmingham, Darlington, Leicester, Golders Green, Bradford, Headingley and Ilford.

The first crematorium erected in France was at Paris in 1889; since then three more have been erected. The first to be built in Germany was at Gotha in 1878; since that date eight others have been erected. Switzerland possesses four, the first being built in 1898 at Basel. In Denmark the first was provided at Copenhagen; in Sweden there are two, at Stockholm and Gothenburg. Crematoria in the United States date back to 1876, when Dr. F. Julius le Moyne, of Washington, erected a building for the future cremation of his own body, but to create an interest in the subject he permitted its occasional use. In 1884 the second crematorium was erected at Lancaster; the year following the New York and Buffalo Crematoria were erected. Since that time more buildings have been added, until now there are twenty-five at the service of the public. A crematorium was built at Montreal in 1902, and at Adelaide, Australia, in 1903. The first erected in Italy was at Milan in 1876, and since that date several others have been built, until now there are twenty-six in operation.

Practical Considerations.

Passing from the commencement of cremation to the practical side of our subject, "The Planning of Crematoria and Columbaria," we will first give a glance at the general principles. The Act for the regulation of the burning of human remains and to enable burial authorities to establish crematoria came into force in this country on April 1, 1903. The Act provides for the maintenance of crematoria and burial-grounds or anything incidental thereto, and that no human remains shall be buried in any crematorium until the plans of the site shall have been approved by the Local Government Board, and until the burial authority has given notice to the Home Secretary that the building is completed and properly equipped for the purpose of the disposal of human remains by burning. It also provides that no crematorium shall be constructed within 200 yards of any dwelling except with the consent, in writing, of the owner, lessee and occupier of such house, nor within 50 yards of any public highway, nor in the consecrated portion of any burial-ground of any burial authority. I might mention that Ilford Crematorium is erected in the consecrated portion of the cemetery, although the building itself remains unconsecrated.

In giving consideration to the question of the consecration of the ground, we will first glance at the Cemetery and Burial Grounds Act, from which it will be seen that a cemetery is not always consecrated. The statutes relating to the burial of the dead make a peculiar distinction between burial-grounds and cemeteries. The former are provided for under the Burial Acts, of which there is a series of twelve, dating from 1852 to 1885; the latter under the Cemeteries Clause Act 1847, in which it is stated, "A burial-ground must have a portion of it tendered to the Bishop of the diocese for consecration, but no portion of a cemetery need be consecrated." Although these buildings remain unconsecrated, I suggest that every one be planned with the head of the catafalque facing due east.

In the general arrangement of the plan it is of the utmost importance that due regard be given to the relative positions of the chapel and the incinerating chamber; and it must be remembered that the removal of the coffin and its transport to the crematory should be effected as far as possible without handling. Provision is generally made of a chapel, incinerating chamber, vestry and a waiting-room for the use of the relatives or friends who are anxious to remain until the body has been reduced to ashes.

Golders Green Crematorium.—This building, which was opened in November 1902, is the property of the Cremation Society of England. It is designed in the Northern Italian style, and may be said to be strict in treatment, depending on its breadth and proportion rather than upon ornament. Provision is made here of a chapel, which, including its gallery, is 70 feet long and 25 feet wide; a waiting-room and vestry are arranged beneath the gallery. The incinerating chamber adjoins the chapel; it is 62 feet long and 40 feet wide, with provision for four furnaces, two of which are at present erected. The internal walls of the chapel are panelled to the height of the doors, above which the arcaded brick walls carry an open-timbered roof. The columbarium here is about 22 feet square; it is a tower-like building with four storeys, having provision for the reception of 1,700 urns. It is proposed at some future date to connect this building and the chapel with cloisters.

Manchester Crematorium.—This crematorium comprises a hall or chapel about 50 feet long and 25 feet wide. Colonnades for the reception of urns are arranged on each side. On the inside wall of the hall niches are arranged for urns. The incinerating chamber, which is at the rear, has accommodation for two furnaces.

Liverpool Crematorium.—This building is an excellent example of a combined crematorium and columbarium. On the ground floor are arranged the chapel, waiting-room and incinerating chamber; under the chapel, and with direct access from it, is provided a columbarium, having three well-lighted corridors, on either side of which are arranged niches for storing urns. Some of these provide for one and some for three.

Leicester Crematorium.—This building stands in the Gilroes Cemetery, Leicester. It is designed in a Late Gothic style, and comprises two chapels, in size about 24 feet wide and 43 feet long, each having a chancel at the rear, 17 feet by 17 feet 6 inches. One is intended for inhumation services; the other, which is for cremation, has an oak catafalque. At the rear of the chapel is planned the incinerating chamber, which is 43 feet long and 23 feet wide. Cloisters are arranged at the front and side of the building. It is proposed at some future date to form niches for urns in the recessed spaces on the walls of the cloisters. There are also provided here mortuaries, waiting-rooms and several other offices.

Hull Crematorium.—This crematorium is built of red brick externally with artificial stone dressings; it is designed in the Early Perpendicular style, freely treated. It comprises a chapel 24 feet square and an incinerating chamber 20 feet wide and 24 feet long. The catafalque here is constructed of stone and draped with velvet.

Sheffield Crematorium.—This building, which was erected in 1904, forms an annexe to the existing chapel of the City Road Cemetery. The crematorium is 36 feet square inside and has accommodation for two furnaces, only one of which is installed at present. The building, which is of fireproof construction, is roofed with an octagonal dome of stone ribs and concrete, covered with roofing slabs of artificial stone. It terminates in a stone lantern, which is designed to provide both light and ventilation, and also serves to enclose the furnace shaft.

City of London Crematorium, Ilford.—This building is planned with a chapel 24 feet wide and 25 feet long; the cremating chamber is 37 feet wide and 30 feet long, with provision for two furnaces, only one of which is at present erected. The original plan has been improved, a waiting-room having been added and access from the chapel to the incinerating chamber being arranged through a small lobby, in place of passing through the tower, at the side of the chimney-shaft. The lower floor of the cremating chamber is reached by means of a stone staircase. In this building a fuel store is provided on the ground-floor level, in addition to the one in the basement. The arrangements for a pilot fire in the chimney are also provided at this floor level. The opening into the incinerating chamber at the head of the catafalque is designed in terra-cotta and fitted with a pair of iron doors, which are covered with curtains.

Geneva Crematorium.—This scheme when completed will comprise one of the finest examples of a crematorium and columbarium. The crematorium, which is designed in the Byzantine style, is the only portion at present completed; it has provided on the ground floor a chapel and under the same the incinerating chamber. The catafalque here is of an unusual design; the coffin is placed under the catafalque, resting upon a lift, which is automatically lowered when the committal sentence in the service is reached. It is proposed at some future date to erect colonnades branching right and left of the crematorium with provision for urns. I might mention the general arrangement of this building is to be found in France and Germany.

Mount Royal Crematorium, Montreal.—This building has provision of a large conservatory or waiting-hall, 82 feet long and 40 feet 6 inches wide; it is constructed principally of glass and iron. The floor is laid with coloured marbles and banked with plants, forming a magnificent entrance-hall. Leading from the conservatory the cremating-hall is reached, which is 56 feet long and 20 feet 6 inches wide; it is constructed with a groined stone roof; the floor like that of the conservatory is laid with marble, and the walls are lined with a marble dado. Four doorways are provided for passing the coffins into the incinerating chamber, each being fitted with an elaborate bronze door. The incinerating chamber, which has provision for two furnaces, is 56 feet long and 20 feet wide. At the rear of the conservatory, with access from the same, three large vaults or columbaria are provided for the reception of urns.

The Earl Crematorium, Troy, New York.—This building, which is designed in the Romanesque style, is 136 feet long and 70 feet wide. The chapel is 40 feet long and 26 feet wide, with a chancel 26 feet by 16 feet; it is a model of architectural skill, and its furnishings are throughout in good taste. The reception-room, which is 24 feet by 20 feet, is most artistically decorated. The walls are of Siena marble blocks, laid in 12-inch courses, surmounted with a carved moulded cornice of the same material, and supported by a wainscotting of pink African marble 42 inches high; all the doors and windows are covered with elliptical arches of pink African marble, and in the angles are figures holding laurel leaves and flowers, executed in marble mosaic. These arches are borne upon seventeen columns, each 5 feet 9 inches high and 11 inches diameter. The tower at the south end is 45 feet from the chapel, with which it is connected by a loggia of three massive granite arches; it is 90 feet high and 18 feet square at the base.

Crematorium and Columbarium, San Francisco.—The crematorium here contains a chapel which occupies one-half of the first floor and has seating accommodation for 140. It is fitted with all the necessaries for conducting a funeral service. Beneath the chapel on the ground floor are four rooms—reception-room, preparation-room, incinerating-room and temporary urn-room. The coffin is received in the reception-room and afterwards placed upon a lift and raised to the chapel above; after the service it is noiselessly lowered to the incinerating chamber. The incinerating chamber is supplied with two furnaces. Around three sides of this chamber is constructed a gallery with seating accommodation for those relatives or friends who wish to witness the introduction of the coffin into the furnace. The columbarium, which is situated about 650 feet from the crematorium, has provision on the ground floor for upwards of 1,700 niches, varying in capacity from two to twenty urns. The first floor is a duplicate of the ground floor, with the exception of the quadrants being lighted at the top instead of the sides, and contains 1,600 niches. The second floor is similar to the ground floor, excepting the quadrants and wings are omitted; provision is made for 700 niches on this floor.

The Planning and General Arrangement.

Having given illustrations of various types of existing crematoria and columbaria, I propose that we now consider some details of the requirements.

The Chapel.—The chapel or hall should be planned with a minimum floor space of 1,200 super feet. When the necessary seating is provided, and the catafalque fixed, there will be found little waste space. I should advise provision be made for urns on the inside walls of every chapel, as it adds to the beauty of the building. In some cases, a columbarium is provided under the chapel, with access from the same or the entrance lobby; an instance of this is to be found at Liverpool. A system of electric inter-communication between the chapel and the incinerating chamber is necessary; a bell-push should be provided either on the clergy's desk or in the floor near the same. By this means the engineer is informed the moment it is necessary for him to cause the coffin to pass from the chapel into the incinerating-room.

The Catafalque.—The catafalque or table upon which the coffin is placed during the service should be planned to stand with its head abutting the wall of the incinerating chamber. When the incinerating chamber is planned under the chapel, then the catafalque should be situated so that when the coffin is lowered it will be deposited near the front of the furnace. The catafalque in general use is about 12 feet long, 3 feet 8 inches wide and 4 feet high; the top is fitted with an apparatus worked by means of an endless chain, which conveys the coffin from the catafalque to the carriage, which is arranged to run upon lines inside the cremating chamber. By this means the coffin may be deposited in the front of one or more furnaces without handling. It is subsequently transported from the carriage into the furnace by the means of a lever. This latter operation has to be quickly performed, for as soon as the coffin enters the furnace it commences to burn.

The opening in the wall of the incinerating chamber should be the full width of the catafalque, and about 2 feet 9 inches high. It is fitted with a pair of iron doors and should be covered with curtains. It is advisable to enclose with a drapery the portion of the incinerating chamber occupied by the carriage when waiting to receive the body.

Incinerating Chamber.—The first important question to be decided in planning this chamber is the number of furnaces to be installed. When planned for a single furnace this room should have a minimum width of 20 feet and 25 feet in length; this will be sufficiently large for either a "Simon" or "Toisoul-Radet" furnace; when two or more furnaces are provided then the superficial area will be increased in proportion. The types of furnace principally in use in this country are those patented by Messrs. Simon, Ltd., of Manchester, which is heated by coal and coke, and that of Messrs. Toisoul, Radet & Co., of Paris, heated by coal gas.

When a "Simon's" furnace is installed a basement about 6 feet 6 inches in height is required to receive the lower portion of the apparatus. It is advisable to form an opening in the floor clear of the same. By this means the expansion and contraction which takes place will not affect the structure. The heating of this furnace is generally commenced in the lower part, and the stoking continued from the feed-hole at the ground-floor level.

When a "Toisoul-Radet's" furnace is installed no basement is required; the only provision necessary is a small pit at the rear in addition to the excavation for the lower part of the furnace, flues, &c.

The furnace should in all cases be planned to stand 10 feet from the wall of the chapel.

Chimney-Shaft.—The chimney-shaft should be planned in as close proximity to the cremating furnace as possible; the internal measurement at the base should be at least 2 feet square, and be carried up to a minimum height of 60 feet. The chimneys at Hull and Ilford are 70 feet, while that at Birmingham is 80 feet, but I have found, when these furnaces are at work, the dampers are rarely withdrawn to their full extent. I have therefore arrived at the conclusion the height is excessive. The provision made for a pilot fire differs with various crematoria; at Ilford a small furnace is arranged in the shaft (at the ground floor level) for the fumes to pass direct into the chimney until the introduction of the coffin, when they then pass over the pilot fire and up the shaft. From inquiries I have made I fail to find evidence that any gases given off from a body escape into the main shaft, therefore any arrangement of an elaborate character is unnecessary. If an opening of about 2 feet wide by 3 feet high, fitted with iron doors, is formed at the base of the shaft it will be found to meet all the requirements for lighting a small fire and causing a draught.

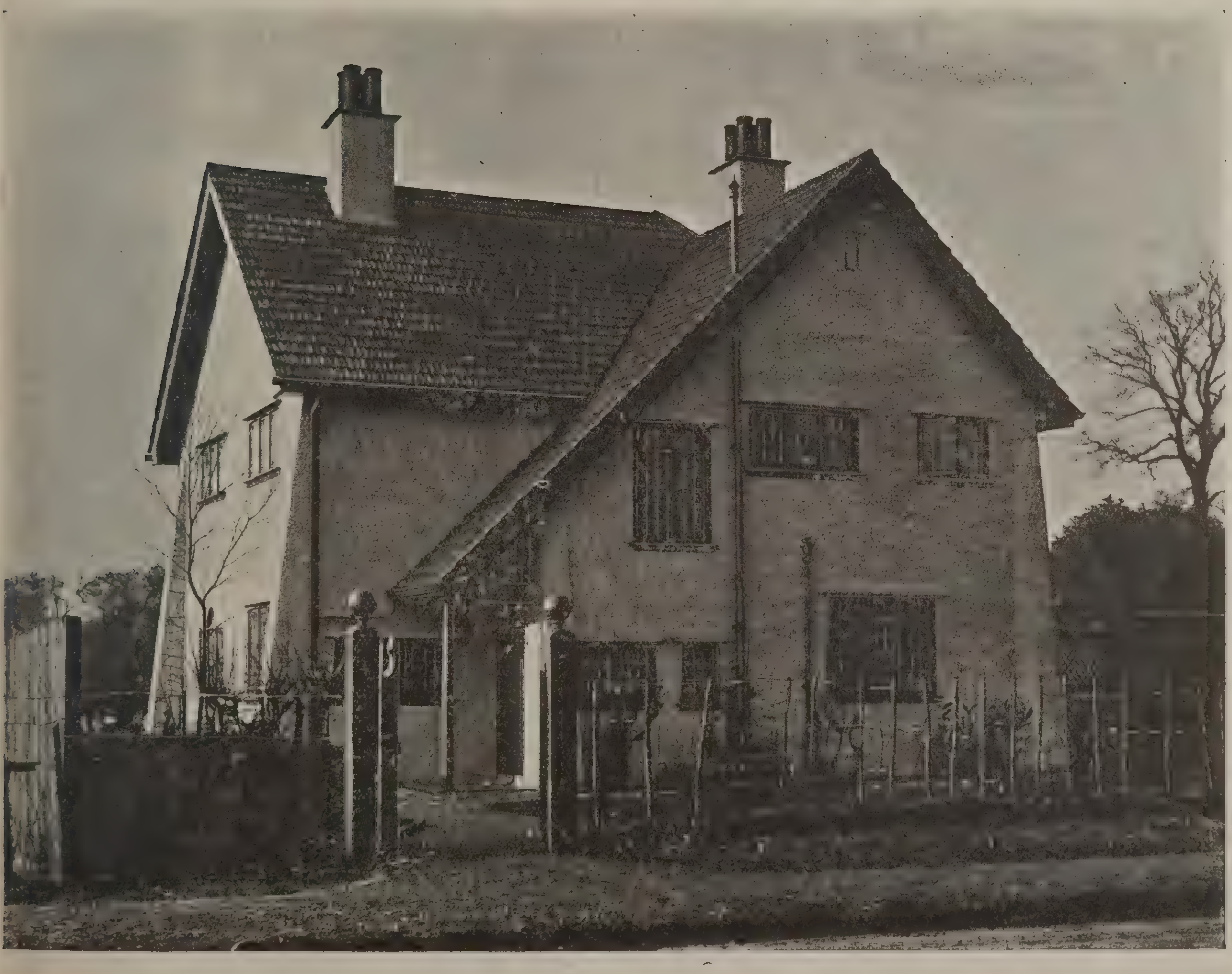
Columbaria.—In planning these buildings the first point to be considered is the number of urns for which accommodation is necessary. When a building is planned with a large hall having a series of small apartments or halls leading from it, the hall can be fitted with niches to suit the requirements of the poor, while they that are in a position to pay larger fees find accommodation in the various small apartments, where they can obtain greater privacy when visiting the remains of friends.

The niches or receptacles should be arranged to hold from one to five urns in a single compartment. In constructing the niches there are many patent materials on the market which can be brought into use, such as expanded metal, terra-cotta partition blocks and various others. The urns in use are known as the "box" or "vase" shape; the first mentioned measure 16 inches by 8 inches, and are 8 inches high, the latter are about 12 inches diameter and 18 inches high. The urn in general use in this country being of the "box" shape, provision should therefore be made, with few exceptions, for this design. The fronts of the niches should be closed with marble or glass slabs, held in position by detachable copper or iron fittings and frames, thus rendering them dustproof; the interior of the niches can be plastered, distempered, or artistically decorated.

Cost.—The cost of a crematorium will depend upon the number of furnaces installed, the accommodation provided for the reception of urns and the general style and decoration of the building. The Woking crematorium cost 5,022*l.*; the Leicester crematorium, with chapel for inhumation service and the various other buildings, cost 13,830*l.*; the Birmingham crematorium, 5,000*l.*; Liverpool crematorium, 8,000*l.*; Ilford, 7,000*l.*; while the crematorium at Hull I am informed by the city engineer cost only 2,700*l.*

OFFICIALS AND PRIVATE PRACTICE.

THE annual report of the Ulster Society of Architects states that, the attention of the Society having been called to a custom prevailing in some districts of allowing county surveyors, assistant county surveyors and surveyors to urban councils to engage in private practice, it was resolved:—"That the attention of the various county and urban district authorities in Ulster be called to the desirability in every case of terminating the practice on the following grounds:—It is to the advantage of public interest that public officials should be adequately remunerated and give their whole time to the discharge of their public duties without the distraction of other work, obviating the natural temptation to attend to that which increases their income to the neglect of those duties which are discharged under salary. They should also occupy a position of entire independence, so that they may deal with local contractors and others without fear or favour, which can never be the case when depending on private practice, probably obtained from or through the influence of those with whom they have public relations. It is an anomaly that surveyors to urban district councils should have the power to approve of plans prepared by themselves, and to approve or disapprove of plans prepared by architects who are in private competition with them for private practice. As a result public interest must, on the one hand, suffer; and, on the other hand, it is grossly unfair to architects practising in the district. The difficulty of obtaining the services of a competent surveyor and adequately remunerating him for his entire time might be got over by grouping urban districts under one surveyor or other suitable means."



WESTFIELD, ORPINGTON, KENT. *(Messrs. Barrett & Driver, Architects.)*

NOTES AND COMMENTS.

A difficult task awaits the officials of the domains in France, for they will have to prepare an inventory of all the property belonging to the Church in France. At the time of the first Revolution the ecclesiastical estates were seized and devoted to other purposes. But it was agreed under the Concordat that measures should be taken which would enable people who wished to bequeath property to the Church to do so. It is believed that the value of such property at the present time is about 300,000,000 francs. The estimate of the revenue which it can produce varies from 7,000,000 francs to 14,000,000 francs a year. What proportion of the property can be claimed by the State will have to be determined by the surveyors and lawyers engaged for the purpose. A great many cathedrals and churches which are considered as historic monuments are national property. But there are many other buildings which are not comprised in that category. It is calculated that the annual expenses for keeping up buildings which are not conserved by the State amount, at least, to 3½ millions of francs. That amount would be one-half of the revenue which some experts calculate. Property which can be claimed as belonging to the State is to be returned to the State.

It would be interesting to be able to study the reports which the various conservators of the Louvre have prepared by order of the Minister of Fine Arts. In order that there might be no doubt about the kind of information which was desired, printed questions were sent to those officers. In each case suggestions are to be given about the rearrangement of the collections. It is expected that as a result there will be more concentration of various objects, and that henceforth there will be less necessity to make long journeys through the museum in order to compare objects which should be considered as being of the same class. It is also anticipated that the opportunity will be taken to remove a great number of acquisitions which are of doubtful authenticity. All museums, it is believed, can produce testimonies to the incapacity of their officers; but the Louvre is supposed to surpass all others in Europe in the number of falsifications. Of course it is outdone by the New York Museum.

A deputation waited on the Maidstone District Council last week in order to appeal for the retention of the old Palace gatehouse. It was not the first attempt which had been made, and money had been already subscribed in order to preserve the remains. One gentleman who had given over 100*l.* said if the building were demolished he would consider himself as unfairly treated. The Kent Archæological Society and several other archæologists and artists had expressed a desire for the preservation of the building. As soon as the deputation had left it was immediately proposed, "That the old gatehouse in the Palace gardens be now removed." One alderman said that, having received the gatehouse as a gift and under the promise that it was not to be removed, he considered it was unfair on the subscribers. Eventually the resolution was defeated. We hope it will be taken for granted by the Council that the old building, which is at least 800 years old, merits their care.

"The spacious Shenan spreading like a sea," which was the poet Spenser's description of the largest of the Irish rivers, has been brought into notice this week by the sale of an ancient weir on it to a London syndicate. The Shannon in parts of its course divides itself, and on one of the branches about a mile north of Limerick is the weir for which a sum of 13,000*l.* has been paid, the lease having only thirty years to run. It is said that the first grant of the fishery was by King John about A.D. 1210. Limerick, from its position, was in those days an important city. Foreigners as well as native tribes strove to possess it. In the twelfth century the king of it sought the assistance of the early Norman invaders against a neighbouring king. Afterwards the strangers held it. A grant of Limerick to Herbert Fitzherbert was made in 1179, who resigned it to Philip de Braosa, or Bruce. A provost was appointed in 1195. King John arrived in the city in 1210, and ordered a bridge and castle to be erected, and a mint was established. Many Englishmen then settled in Limerick, and the wall surrounding their part of the city was fortified with twenty-four towers. The fishing was granted to William de Braosa. Afterwards the bishops of the district were tenants, and it then passed to the Corporation, whose representatives sold the property about twenty years ago.

The retention in London of Mr. Pierpont Morgan's valuable collections has had the effect of inciting the Americans to organise against the imposition of high duties on works of art which are not commercial speculations. One result is the establishment of an American Free Art League. It cannot be said that the entry of such works as the Fragonard paintings which were lately exhibited in London would deprive any American painter of a commission. A great many Americans who are wealthy have no doubt a preference for old works which almost amounts to a mania, and in consequence the men who furbish up fragments into complete objects are able to reap a fine harvest in the United States. But there are also Americans who believe that a modern house should be adorned with modern works produced by their countrymen, and one class can be set against the other. The best evidence that there is no jealousy among the artists is found in the number of them who form the executive committee of the Free Art League.

ILLUSTRATIONS.

CATHEDRAL SERIES.—TRURO: VIEW OF THE EAST END FROM THE BRIDGE.

SCULPTURE GALLERY, ABERDEEN.

ADDITIONS TO GREENLANDS, CATERHAM.—FRONT VIEW.—GARDEN VIEW.—INTERIOR OF NEW BILLIARD-ROOM.

These additions were made to the existing house in order to increase the accommodation by a large billiard-room and five new bedrooms. As the building line is rather near the public road and offers insufficient space for carriages to turn in, the main entrance was continued as a corridor porch about 25 feet long right up to the front boundary wall, with a gabled archway and oak gate in same. The external walls of the new portion, which had to be carried out somewhat in character with the existing building, are of 14-inch brickwork with an outer casing of knapped flints 4½ inches thick (making 18 inches in all), having red brick quoins and dressings. The billiard-room, in addition to a recessed fireplace, has a raised daïs at one end divided by a screen from which to watch the players, or which can be used as a card-room and for other purposes. The work was carried out by Messrs. J. & J. Ward, builders, of Warlingham, Mr. Walter E. Hewitt, A.R.I.B.A., of 22 Buckingham Street, Strand, W.C., being the architect.

OFFICES: NO. 47 BALDWIN STREET, BRISTOL.

The illustration herewith is a perspective view of a new front to the offices of Messrs. W. F. Lavington & Son, wine merchants, 47 Baldwin Street, Bristol. The front was erected in consequence of a street improvement made by the Corporation of the city and county of Bristol. The work was carried out under the supervision of Mr. T. H. Yabbicom, M.I.C.E., city engineer of Bristol, the design being prepared by Mr. G. Wright, architectural assistant on his staff.

The architect of the Bishop's Throne published last week is Mr. Wilfrid Randolph.

THE COLONIES AND COLONIAL ARCHITECTURE.

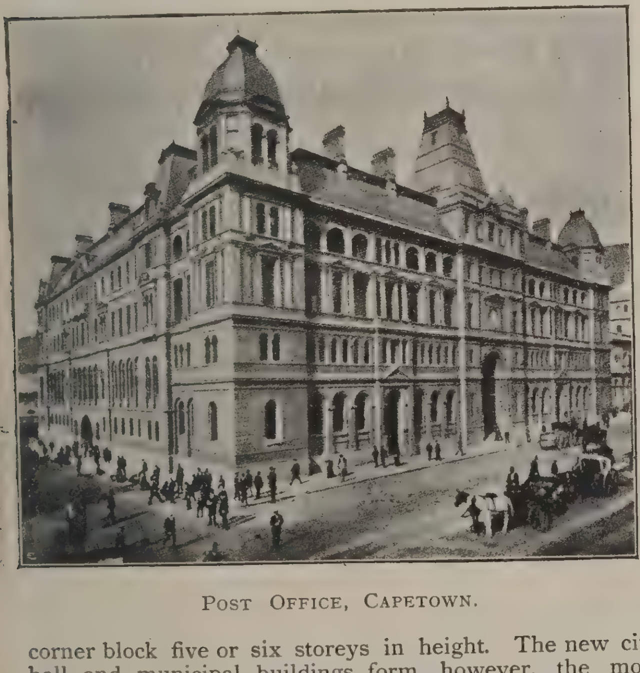
(Continued from last week.)

SOUTH AFRICA.

WITHIN a few decades a complete revolution has taken place in South African styles of architecture. Less than half a century ago, according to the *British and South African Export Gazette*, the Dutch type of building—spacious, two-storeyed, flat-roofed, quaintly gabled, with whitewashed or stuccoed front, and the inevitable stoep running along its entire length—prevailed in town and country alike, save where the early Victorian barracklike structure of the merchant firm and the primitive tin shanty of the storekeeper or trader had gained a footing. Now, however, the unpretentious structures of earlier days are rapidly disappearing from the larger centres, and in their places stand the palatial public and commercial edifices, the towering steel-frame "sky-scrapers," the inspiring cathedrals and churches and the suburban villas with comfortable interiors and decorative exteriors. There is no doubt that many clever architects from Europe and America have been attracted by the prospects which South Africa offers them, while it is conceded that they have done and are continuing to do yeoman service in the land of their adoption.

CAPE COLONY.

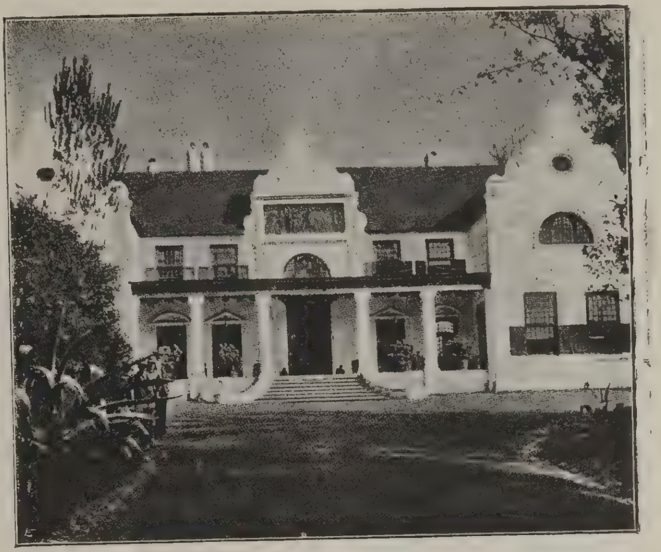
Capetown, or "the gateway of South Africa" as it is called, is indeed a striking city, and during the last twenty years it has undergone a great change. Old buildings have given place to important structures, of which it is claimed that even London might be proud. Adderley Street is the main thoroughfare, and the finest buildings are in the immediate vicinity. The Cape Parliament-houses, in the centre of the city, form an architectural pile that cost nearly a quarter of a million sterling. The public library is another fine building. Beyond the municipal gardens is the museum containing a valuable collection of specimens illustrative of the natural history of the country, and attached thereto is the South African art gallery, containing a collection of paintings. One of the best known buildings in the city is the General Post Office, a gigantic corner block five or six storeys in height. The new city hall and municipal buildings form, however, the most notable example of official enterprise. The edifice is described as being in the style of the Italian Renaissance, and has three storeys, with a clock-tower and belfry 200 feet in height. Messrs. H. A. Reid & F. G. Green were the architects. St. Mary's Roman Catholic Cathedral is an imposing edifice, whilst St. George's Cathedral, the Royal Observatory and the South African College are, as well as other public buildings, worthy of attention. The most interesting of the old buildings is the Castle, a quaint specimen of a citadel, which was erected in 1666.



POST OFFICE, CAPETOWN.

Near Rondesbosch, one of the principal suburbs, is "Groote Schuur," one of the residences of the late Mr. Cecil J. Rhodes, which is a specimen of the best period of Dutch Colonial architecture.

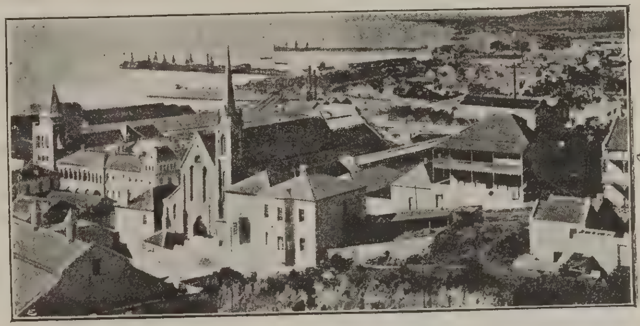
Stellenbosch, thirty-one miles from Cape Town, is Dutch in appearance, having a large square and some old thatched houses. "Oude Libertas" is a survival of old Dutch architecture, and was erected in 1699. The Stad Huis, or Town House, a circular-roofed building, was built in the year 1770.



GROOTE SCHUUR. RESIDENCE OF THE LATE MR. CECIL RHODES.

At Kimberley much has been done, we gather, to beautify the place, and although the old iron houses enter greatly into its construction, particularly in the older business parts, the advance of architecture in the residences and public buildings has been marked, and the suburb of Belgravia, with its substantial residences, is sought after by well-to-do colonists. The chief buildings are the High Court on the Market Square, the town hall, the public library and the theatre.

Port Elizabeth, the "Liverpool of South Africa," derives its name from Lady Elizabeth, wife of Sir R. Donkin, acting Governor in those days. Its position as the chief port of entry on the south-east coast, its commercial rank, its standing as the second city of the colony in point of population, and its excellent public buildings, commend it to the stranger whom good fortune or otherwise leads within its gates. The Museum, located in the Market Buildings, has a large collection of South African curios. The Feather Market is one of the largest halls in South Africa, and can accommodate over 5,000 people. The public library, built in the style of the Elizabethan period, has 38,000 volumes. Many handsome places of worship adorn the town.

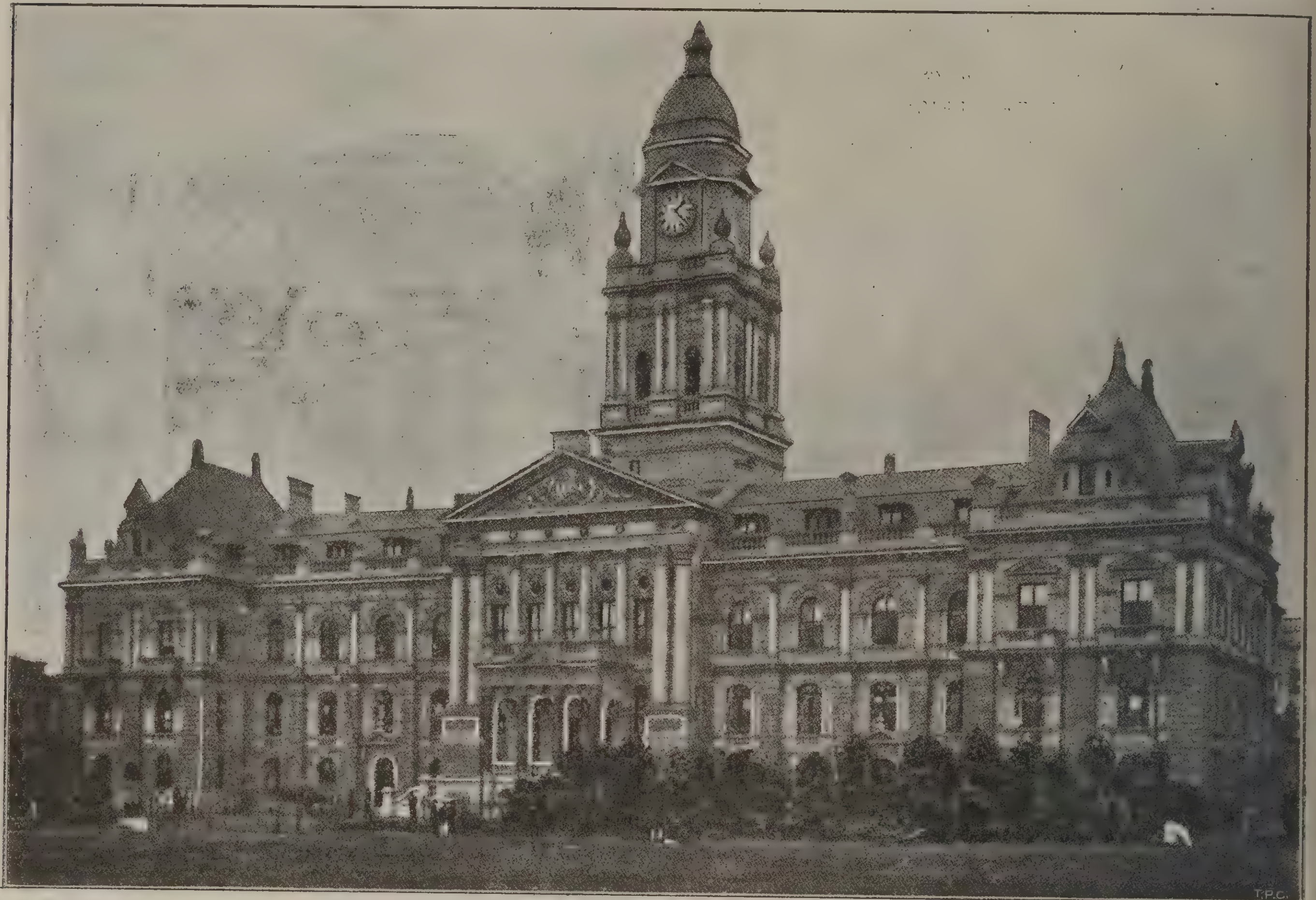


PORT ELIZABETH, "THE LIVERPOOL OF SOUTH AFRICA."

At Grahamstown there is a public library, a museum, a town hall, law courts, hospital and lunatic asylum. There are also two cathedrals, and churches of various denominations.

East London is beautifully situated at the mouth of the Buffalo river, and stands to-day as one of the principal ports of Cape Colony. The town hall is a substantial building with a clock tower, whilst, in addition to the post office, there are several churches, high schools and a Masonic temple.

King William's Town has also the advantage of an attractive site, and contains much of interest. The Government offices were built about thirty years ago. The



HOUSE OF PARLIAMENT, CAPETOWN—THE FRONT VIEW.

[*Photos by A. Meyzer, Capetown*

Victoria drill-hall and gymnasium is a handsome and useful public building. The public library is commodious, as also are the museum and the town hall, which latter was not long since enlarged and renovated.

TOWN HALL, EAST LONDON.

Queenstown was built as a place of defence, and for this reason the market square in the centre of the town was formed in the shape of a hexagon. The town hall, rebuilt in 1882, is an imposing stone structure.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

AT the rooms of the above Society on Thursday, the 11th inst., a paper was read on "The Better Housing of the Artisan Population" by Mr. W. P. Rylatt, who won the prize for essay on the subject. The question of the housing of our artisan population is one of the greatest problems of the present day. Ever since 1851, when the attention of Parliament was first drawn to the disgraceful state of the houses of the artisan classes in London and in other large cities, Acts have been passed and measures taken to improve the condition of these dwellings. A very great fact in the health of the people, physical and mental, is a cheeriness of surroundings and a pleasant outlook obtained by providing plenty of open spaces, laid out as gardens, such as is carried out on the Millbank estate in London. Many difficulties are met with in carrying out schemes of workmen's dwellings in large cities, one of which is the high price of land, and another is the increase in recent years of the cost of materials and labour. Every advantage should be taken of cheaper methods of building, and perhaps a more reasonable application of the by-laws by the local authorities would allow more latitude in this respect. In a workmen's dwelling scheme everything should be cheap and simple, consistent with good workmanship. The most economical plan of tenement buildings is a parallelogram two rooms deep and with a common staircase, everything as far as possible fire resisting. All staircases, landings and passages should be reduced to a minimum. To bring a little brightness into the lives of the tenants the buildings might be planned round a paved court or quadrangle, opening into a street by one or more archways and laid out with flower beds. This court might be overlooked from balconies on each floor. Much might be done by providing cheaper and quicker means of transit by electric car and railway to enable the better class of artisan to live in the suburbs, and so leave more dwellings in the congested parts of the city for the lower class of workman. In providing dwellings for the artisan class private enterprise has signally failed, and we have acres and acres of jerry-built property in the suburbs, which probably in a few years will fall into a condition almost as bad as that of the wretched dwellings now being cleared away in our slums. The problem of the housing of the agricultural labourer in the country naturally does not attain the vast proportions of the same problem in the city. In this case a cottage costing from 100*l.* to 130*l.*, everything included, is needed. To effect this purely local materials and labour should be utilised as far as possible.

SHEFFIELD SOCIETY OF ARCHITECTS.

At the monthly meeting of the Sheffield Society of Architects and Surveyors, Dr. H. Scurfield, medical officer of health, read a paper on "The Advantages and Disadvantages of Mechanical Ventilation." The mechanical system he advocated is that by which the fresh air is propelled into the room from a selected pure source, not the "extraction" method by which the foul air is drawn out and the fresh air left to find its own way in. At the same time, he thought churches and public halls might readily be ventilated by extraction fans and plenty of inlets equipped with radiators. For most buildings, however, ventilation by propulsion was the most convenient, because the source of the air could be chosen, the amount of air delivered and the rate of movement could be regulated, and the entering air could be warmed as desired. After giving his experiences of the use of the propulsion method in schools and other buildings, Dr. Scurfield summarised his opinions in the following statement:—Where the cubic space allowance is small, as in elementary schools with 120 to 150 cubic feet, mechanical ventilation is the only system which is capable of giving really good results as regards the purity of the air, but where the cubic space allowance is large, as in hospitals with 2,000 cubic feet, its introduction is probably undesirable. Secondly, if mechanical ventilation is decided upon for a building the fact ought to be realised that by its means the air of the building can be changed at least twice as frequently as by other methods, and that its introduction is equivalent to doubling the cubic space of the building, and that it is therefore well worth while to pay for as perfect an installation as can be obtained. Thirdly, the contract as to what air changes are to be accomplished by the method should be carefully drawn, and after the work is completed careful tests by chemical analyses of the air and the anemometer should be made in order to ascertain that the terms of the contract have been fulfilled. Lastly, the person responsible for the management of the building should thoroughly understand what are the capabilities of the system, so that it may not be expected to perform impossibilities. Mechanical ventilation will keep the air in the classrooms of an elementary school good for a matter of eighty minutes, but if the classrooms are not emptied and filled with fresh air at the breaks, the air in them will be just as bad at the end of the morning or afternoon school as the air in the classrooms of a naturally ventilated school just before the break.

DRAWING AND COLOUR.

On the 8th inst. Mr. Clausen, A.R.A., the Professor of Painting, began his course at the Royal Academy. He said, according to the *Morning Post*, that drawing was, of course, frankly a convention, for we never see lines round objects. Yet a reference to the drawings of primitive people showed that it had always been natural to represent things by lines. It was a form of expression from the earliest days, a form that gradually became more precise and then acquired suggestion of movement and modelling of surface by gradation. Finally it developed into expression of form by light and shade. He proposed to speak of the drawings of the earlier masters down to the time of Michel Angelo and of those of our time who had been influenced by those masters. There was one great difference between the drawings of the old painters and those that students make in the schools to-day. The old men made theirs with some definite intention, not merely as studies as our students do, and in connection with this point the lecturer compared the ancient and modern methods of art training. He questioned whether with all our advantages our school system was as good in its results as the older plan of working as a pupil in an artist's studio. The work of the old masters, even when they were not of the best, was so satisfactory in its accomplishment that ours seemed tentative beside it. It was, perhaps, because we relied too much on the posed model, rather than the intelligent study of form and movement. There was too much tendency to-day to regard school work as an end rather than a means. The drawings of the earliest painters were unfortunately rare, but the students might see good examples of them at the British Museum by Pisanello and by the elder Bellini—drawings delicate, slight and of a certain angularity. They could see this early drawing, too, in unfinished paintings, such as the "Nativity of our Lord," by Piero della Francesca, which is in the National Gallery. The older Italian drawing resembled the Flemish in its angularity, but was finer in its types and in its proportion of figures. This was partly a question of race and partly because the Italians had never quite lost the traditions of antique art. The Flemings had no traditions, so they tried to follow nature with absolute fidelity; but they had not the Italians' sense of beauty. In the Flemish drawings, even in that of Dürer, the greatest of the primitive draughtsmen, there was a distinct mannerism, coupled with an insufficient attempt to restrain the line or keep it severe—a tendency rather to make it "curly." This tendency was present to some extent in the drawings of Holbein, but not in his best work, such as the famous Windsor drawings, which were above mannerism. It was mainly from the Flemings that the pre-Raphaelites took their inspiration, and the early pre-Raphaelite drawings, especially those of Millais, were well worthy of study. A fine style of drawing was practised then, and it had a great influence on the illustration of the period. Walker, Houghton and Pinwell all owed their inspiration to Millais, whose drawings were sometimes as fine as those of Holbein or Leonardo. Mr. Clausen urged the students to study above all the finest of drawings, those of Raphael. In them they would find that all was given with the utmost economy of means and with everything put exactly where it should be. The only modern who could compare with him was Ingres, one of the greatest spirits of the last century and one of the finest draughtsmen that ever lived. Looking at the drawings of Ingres you could not imagine that the line could be placed in any different position from that chosen by him. Leighton, too, was sometimes as wonderful in the research of his line as Ingres. There were no better examples than these men, and no greater truth to nature than the drawing of Ingres. As models of style in drawing Mr. Clausen cited Alfred Stevens and Watts, and then referred to the work of J. F. Millet. All three, he said, had this in common—expression through the definition of the form. That was the firm basis of an artist's work. Finally Mr. Clausen read portions of the letter written by Whistler to Fantin Latour, which appeared recently in the *Gazette des Beaux-Arts*. A great colourist, Whistler expresses his regret in the letter that he had ever been influenced by Courbet, and puts the case for drawing in the strongest possible way. Whistler criticises his own work perhaps too severely, and tells Fantin that he knows well that the discipline of the drawing of Ingres would have been the healthiest thing for him. "Guided by drawing," he wrote, "colour is a splendid woman with a husband worthy of her." So, said Mr. Clausen, we may take it from Whistler that the serious study of form is the best thing to which an artist can devote himself. It is worth noting that the mention of Whistler's name was greeted with cheers by the Academy students.

Mr. Clausen's second address was devoted to the consideration of the works of artists whose point of view, he said, was not so much the recording of the actual forms as the appearance of those forms under certain aspects of light. This development of drawing corresponded with that of painting from the time of the primitive artists, when every figure was studied by itself, to the latter period in which painters tried to make everything take its place in the scheme of light and shade and colour in which the picture was arranged. The modern point of view showed a wider sympathy rather than deeper insight, for it was impossible to go beyond the depth of expression of the earlier work. Most of the drawings he proposed to show them on the screen as illustrations of the work of artists who drew for effect rather than for form were by Watteau, Claude and Rembrandt. Watteau, however, was not so good an example as the others, as his drawing indicated both tendencies. Mr. Clausen then showed on the screen a nude study and the drawing of a negro by Watteau, both of which he said suggested the influence of Rubens and were like him in manner of drawing. Both, too, were midway between drawing for form and drawing for light and shade. Some other drawings by Watteau were then shown. The little studied graces of his figures were, said the lecturer, as beautiful as they could be, and the spontaneity of his drawing was one of its rarest qualities. After a passing reference to Gainsborough, whose resemblance in some respects to Rubens was commented upon, Mr. Clausen turned to the drawings of Claude. In these Claude showed himself greater even than in his paintings. He gave us in his pictures the sun shining in the sky with every appearance of truth, and in this and in some other respects his work had never been surpassed. Nevertheless, the pictures had a composed and conventional look, and if it were not that this effect had been overpowered by the greatness of the painter's artistic vision his canvases would become tiresome. But Claude's drawings included many of the most fresh and delightful studies from nature, studies of effect made for simple enjoyment, and these were far more attractive than the larger works which were possibly painted because of the taste of the time, when pure landscape was hardly accepted. People often said when discussing Claude's pictures:—"Oh, yes; he is all right for atmosphere, but he could not draw. Look at his trees; they are all alike." There was some truth in this; but if those critics would look at his sketches they would find that the trees there were individualised and natural. Mr. Clausen showed some beautiful sketches of trees and landscape by Claude, and in commenting upon them remarked how few of the landscape sketches by old masters were in colour. They did not approach colour in our way, and it was with them largely a matter of memory. They aimed less at getting the actual colour of nature than its gradations, and the modern men, if they had lost the big grasp of landscape, had arrived nearer to the true hues of nature. According to Sandrart, Claude did paint sometimes in colour directly from nature, and it was said he valued those studies so highly that he would not sell them. The lecturer advised the students sometimes to sketch from the point of view of the Claude drawings and to make their picture rather by gradation than by colour. Mr. Clausen contrasted the work of Ingres with that of Rembrandt. In Ingres we saw science, measurement, analysis and the most beautiful and exact drawing. But his work was almost wanting in human interest, and showed little preoccupation with anything but the posed model, whereas Rembrandt was full of deep emotion and sympathy, and as an artistic inspirer immeasurably the superior. These artists illustrated the two opposite tendencies of drawing for form and for effect. Charles Keene, the modern draughtsman who came nearest to Rembrandt, determined as he did the accents of his drawing by the shape of the shadow, while Phil May's accents were determined by form, much as those of Dürer were.

Mr. Clausen, in his third lecture, treated of "Quality in Colour." Although, he said, there were no mysteries in drawing colour was full of them. Colour itself was hardly definable, for a colour in a picture was not always what its name represented—as white, for example, might be yellow or brown or blue, according to its relations. The quality of colour depended on the way that the paint was put on rather than upon the colour itself—the clearness of the paint put down easily and untroubled. We found quality of colour in most fine work, but much more important than the quality was the harmony of colour—the essential thing was to establish the proper relations. In this connection Mr. Clausen compared Bronzino's "Cupid, Folly and Time" with Tintoretto's "Origin of the Milky Way." In each the quality was good, but in comparison with Tintoretto Bronzino was discordant. The pictures that had been honoured throughout the ages had maintained their places through colour rather than anything else, and the work of Ingres, Scheffer and Gérome does not stand when compared with that of Delacroix and Bonington. Much of Manet's work was ill drawn and in some respects repellent, but the freshness and quality of the paint was nearly always fine, and he seemed to mind little else. In Velasquez alone did we get fine freshness of painting combined with perfect craftsmanship. Mr. Clausen told the students not to accept the dictum that "time and varnish are the best old masters," although both time and varnish might and often did improve pictures. It was safe to conclude that good pictures had always been good and bad ones always bad. The lecturer then touched upon the differences in quality of oil and tempera, and showed that to the flexibility of the first medium was due the wide difference in the aspect of oil-paintings by different masters, and that the more general similarity of works in tempera was due partly to the medium itself and partly to the small number of colours that it was customary to employ. In fresco it was impossible to make alterations, and those made in tempera are likely to show in course of time. In Piero di Cosimo's "Death of Procris," one of the most beautiful pictures in the National Gallery for the quality of its paint, a correction that had been made in the drawing of the hand of Procris had since shown itself.

We could see from unfinished early pictures how carefully the artists planned out everything and drew and painted it piece by piece with exact knowledge of how it would all come together. But the methods of those early artists were altogether opposed to ours—their lights were transparent, their shadows loaded, as in Bellini's "Doge Loredano" and Holbein's "Duchess of Milan." Mr. Clausen urged his hearers to look at the large picture in the National Gallery by Catena—the "Warrior Adoring the Infant Christ"—as an example of the earlier work. It was a picture wonderful in colour, and he believed that it was painted directly in one painting and in full strength of colour. This indicated absolute command of means, and it was safe to say that no one could do it to-day. All our artists arrive gradually at their end, but in the Catena everything was settled before the colour was put on the canvas. The lecturer said that he had dwelt on this because it showed what underlay all good work, that the artist should know exactly what he wanted to do, and that he should know his trade. As a piece of splendid painting the sleeve in the so-called "Ariosto" of Titian was cited—a piece of beautiful quality, dark and grey and yet full of light, and probably painted thinly over a white ground. After touching on the various methods of painting employed by Rembrandt, sometimes complex, sometimes direct as in the case of the head of the old lady in the National Gallery, Mr. Clausen said that direct painting was well enough for some things, but that if an artist had a subject that demanded a wide range of colour the range of painting had also to be extended. Most of the great painters seem to have felt that paint in the shadows must be more subtle than in the lights, and where this has not been suggested a certain monotony seems to be inevitable, as in the paintings by Frank Hals at Haarlem, which were wonderful, but a little dull and flat. For sheer beautiful quality of paint Watteau and Gainsborough were the most remarkable. Watteau's jewel-like colours looked as if they must have been mixed with some rich varnish that gave them almost the quality of enamel. But for the charm of freshness and lightness of hand no painter ever beat Gainsborough when at his best. It seemed a dreadful thing to say, but even Velasquez looked a little heavy beside Gainsborough. Mr. Clausen said that he had felt this when looking at the "Venus and Cupid"—a fine picture that he hoped even yet would become the property of the nation—beside which was hung a portrait of a man by Gainsborough. The work of Gainsborough had more of the charm that comes from the sense of ease in painting than that of any other artist. And after all, this freshness of touch seemed to be one of the great secrets of quality. The less we did to the paint the better, and to do that rightly we must know exactly what we wanted to do. It all came back to that.

HOUSES IN HERALDRY.

Although animals are largely used in blazoning, various objects which are the work of men's hands are sometimes introduced. It would therefore be strange if towers and other fortifications were omitted. In order to give more precision to a conventional sign, some arms bore reference to the situation of the family mansion. Thus Wallop, Earl of Portsmouth, has "Argent, a bend wavy sable," alluding to a well springing from a hillside or hope near the family house in Hampshire; the name being derived from this local circumstance. Hume of Nine Wells, the family of the great historian, bore "Vert, a lion rampant argent within a bordure, or charged with nine wells or springs barry-wavy azure and argent." The estate of Nine Wells is so named from a cluster of springs of that number. Their situation is picturesque; they burst forth from a gentle declivity in front of the mansion, which has on each side a semicircular rising bank, covered with fine timber, and fall, after a short course, into the bed of the river Whitewater, which forms a boundary in the front. These springs, as descriptive of their property, were assigned to the Humes of this place as a difference in arms from the chief of their house.

Mr. E. J. Tench, of Norwich, has been awarded the first prize of 100*l.* in the competition for the extension of the Norwich Shirehall; Mr. W. W. Addington, of London, obtained the prize of 50*l.*; and Mr. W. J. Dunham, of Norwich, the prize of 25*l.* Mr. A. J. Wood was the assessor.

THE QUANTITY SURVEYOR'S RELATION TO ARCHITECT AND BUILDER.

On Wednesday evening last the members of the Quantity Surveyors' Association resumed the discussion, adjourned at the meeting on December 6, of the paper on this subject contributed by Mr. F. B. Hollis, and published in *The Architect* of December 8. Mr. A. J. Gate, F.S.I., vice-president, occupied the chair.

The hon. secretary read three communications from members who were unable to be present at the adjourned meeting.

Mr. Henry Smith, in a letter to the author of the paper, made the following remarks:—

. . . In your definitions of quantity surveyor you mention that he should have intimate acquaintance with the law of dilapidations, &c., light and air cases, and value of property for mortgage and other purposes. Now, I agree that he should have intimate and full acquaintance of such, but from personal experience I find that a quantity surveyor has but very little standing in the eyes of the law on these matters. I have been engaged upon very many cases of such description to give expert evidence, and I have found that nothing but the term "building surveyor" will satisfy the law that one knows what he is talking about and is capable of giving expert evidence, and although a quantity surveyor may be fully capable and able to give first-class evidence, he is discredited because he is a quantity surveyor and not a building surveyor, and in many instances of important cases I have been engaged upon I have been compelled to use the term "building surveyor" to get any importance attached to my evidence. In the question as to whether quantities should form part of the contract, I say Yes, providing that the quantities being a part of the contract does not invalidate the responsibility of the quantity surveyor for errors. I do considerable work in both private and public buildings, and I can say that in not one solitary case has the quantity surveyor's work been allowed to form part of the contract, and why? Simply because it is thought—and somewhat truly considered under the present conditions—that if the quantities formed part of the contract it invalidates the question of responsibility as to accuracy. One of the many reasons I have had given is that if the quantity surveyor's work be accepted as part of the contract, then the provisions usually included by the architects for "contingencies and extra work" cover also any omissions (if any) on the part of the quantity surveyor. How many architects carry out a job of any sort without the "contingency provision"? Not many I fear; and if not put into actual lump-sum amount they insist on having an item measured for provision of brickwork or digging and concrete, &c., and why? Simply as a cover to allow for any matter which, according to the plans and specification, may require altering or adjusting as the work proceeds, and they like those provisions entirely for their own use. I admit that it is desirable in the practice of an architect, where alteration works or uncertain party-wall works, &c., occur, to include something to deal with to cover matters that arise when old work is exposed, as that usually happens where one has so many to satisfy where more than one person is interested. I know that this question on the point of provisions is a very delicate one, and until that point can be dealt with to the architect's satisfaction, they will not, I fear, give the quantity surveyor any recognised position in the contract. I use the architect's name in this matter because he is the man that prepares the contract on behalf of the employer. I point this one question out now because I have had it so often discussed. Another serious clause in quantities and which does not tend to improve matters, and which is often used by supposed qualified men, is "that the quantities have been prepared with care and accuracy as far as possible to obtain same, but the contractor must satisfy himself as to whether they are accurate or not before he signs the contract, as no claim will afterwards be considered if any error or omission be found." It is these clauses that make the contractor dissatisfied and the employer suspicious, and especially when they have to pay full price to a man who is uncertain whether he is competent or not. That sort of quantity surveyor is not the man to head his bills of quantities thus, "that these bills have been carefully prepared, and are guaranteed correct by the quantity surveyor." I have spoken to many architects on the matter as to why they object to quantities forming part of the contract, and the answer invariably I get is, "No, thank you; we get quite enough trouble without giving ourselves more." And one more point. I am of the opinion that the employment direct would be a great mistake both as to the surveyors' side of the question and to the architects' side. It certainly means chiselling down prices, and allows of incompetent men being pushed on to the architect, and I need not discourse on the many drawbacks that would arise to those who are experienced in the matter of the present competitive rules and ways of getting work; certainly one question the employers would be sure to insist on, "that no fees ought to be paid to the surveyor till the job is complete and accounts settled to the building owner's satisfaction."

Mr. A. Ferguson, of Belfast, in a letter, said:—I quite agree with your definition of the relations of the quantity surveyor to the architect and the building owner, which must in reality mean that the latter is the principal and the former his agent. Therefore it follows, as a matter of course, that if the principal, or building owner, allows the bill of quantities to form part of the contract he fully admits his responsibility, and clause 13 does no harm. This reasonable course, however, is not adopted in a great many cases owing to the principal, or building owner, refusing to allow the quantities "to form part of the contract," thereby shifting his responsibility to the shoulders of the building contractor, who in turn rolls it over to the quantity surveyor. At this stage clause 13 becomes operative, and if acted on would not only compel the quantity surveyor to take a risk other than that laid down by law, but also to pay the debt of his principal for a shortage in quantities which he, the principal, alone should pay for, as he alone derives the benefit of same, surely there is something wrong in a clause that would operate so unjustly. Now the remedy I suggest is to amend clause 13 to read as follows:—"Any member of the Association who shall supply bills of quantities may hold himself responsible for their accuracy as a whole, or in cases where the quantities are not intended to form part of the contract he may insert an item in same to cover any risk the building contractor is obliged to take by having to accept the bill of quantities to be correct as a whole." If this were adopted the building contractor could protect himself by an insurance policy, and the insurance company could protect themselves by stipulating that the bill of quantities should be prepared by a member of our Association.

Mr. H. Lawrence Cox, of Manchester, in a letter bearing upon the paper, said:—I am decidedly of opinion that a quantity surveyor should be designated by his true title, and not merely as a "surveyor." The house agent, amongst others, is much too fond of annexing the latter title, and I deem it desirable, both in the interests of the public and the profession, that a definite title should in all possible cases be adopted. The crying abuse of the use of the title "quantity surveyor" by men who issue quantities containing such choice items as those quoted in the paper calls for serious and immediate consideration. I think it very desirable that our Association should continue in the good work of educating the public by the publication and discussion of papers bearing upon the peculiar intricacies and arduous nature of our work, and the necessity, as a matter of justice between owner and contractor, for the work to be solely in the hands of skilled and qualified practitioners, to which section all members of our Association may be safely said to belong.

The Chairman: In the absence of any motion to adjourn this meeting the discussion now becomes open.

Mr. B. Laine Pearson: I would like to offer my opinion on a few points raised by Mr. Hollis's admirable paper. First, as regards the latter part of the fifth section of the definition of a quantity surveyor, which states that he should be a man having an acquaintance with the value of property for mortgage or other purposes. This appears to me to be more the business of a valuation surveyor or house agent, as, although there are many quantity surveyors in London who occasionally do this kind of work, I believe by far the greater number do not engage in it, and to my thinking rightly so, as a quantity surveyor proper is a man of detail rather than that of piecemeal valuation. Secondly, in reference to the difference in modes of measurement in London, the Midlands and the North. As a man who has had considerable experience in measuring up works, and also estimating and bills of quantities in a great many different towns in the North and Midlands, I have found that, with a few exceptions, their chief systems are a want of system, practically no two men following the same procedure, and all having one system, viz. that of shortening detail, even in cities like Manchester and Leeds, where there are printed modes of measurement agreed on between the architect and the builder. Each man follows his own method, and although there has recently been a lot said about standardising modes of measurement, I am afraid it would have to take the form of perfecting the London system only, as, on the one hand, the men who prepare quantities in the North and Midlands would mostly be unwilling to change, and, on the other hand, there are only a few improvements that could be culled from their practice, the chief of them being the running of extra double course at eaves, and cutting and waste in slating and tiling, and the number of tees in iron and copper pipes.

Mr. H. J. West: I should like to ask what is the definition of a quantity surveyor, though it does not make much difference what becomes of the actual word used. Once he is a measurer he must be a quantity surveyor, and when we stipulate a list of what he knows and what he does not, this is a definition. The various items of difference cropping up occur mostly in description. I am quite sure, he continued, that all our errors are not made by qualified men. Slight clerical errors there may be for which I think it would be most unjust to hold a surveyor responsible, and although this clashes with clause 13 of your Articles of Association, still I cannot help thinking that on the whole it would be beneficial to the profession if quantities were always made part of the contract. I know of one public body who made quantities part of the contract, and they stipulated that any errors made by the surveyor should be paid for by him, and *vice versa.* Such an arrangement gets over the difficulty of, at all events, the possible charge that a surveyor will take the quantities out more fully in order to increase his fees. That arrangement I know is in vogue with one of the large public bodies here in London, and, so far as I believe, it works very well, and in the many jobs I have been engaged in it has certainly not been found that the cost of the work comes out very different from what they were originally estimated at—in other words, the inaccuracies have been practically nil.

Mr. E. A. Wylie: I should like to say that I believe that bills of quantities should form part of a contract. I also agree with clause 13 that the quantity surveyor should guarantee his quantities.

Mr. T. W. Biggs: With your permission I wish to say a few words. I would commence with trying to deal with the heading of this paper, because there appears to me to be a very vague idea going about as to the relation of the quantity surveyor with the building owner and the builder. This paper sets forth very clearly some value of the quantity surveyor and his relation with the building owner, the architect and the builder. Now in the present state there can be no difference of opinion as to that. I have heard it said to-night, and many times, that the quantities should form part of the contract. A municipal authority or corporation appoints a quantity surveyor, and at the end of the bill he adds his fee as agreed upon with his client. If that job does not go through the client is responsible to the quantity surveyor—that is the relation he bears. The contract is signed this afternoon at four o'clock, and at the moment the contract is signed the liability passes from the building owner to the quantity surveyor. The builder takes up the responsibility of paying quantity surveyors' fees, and if his advances are 1,000*l*. at a time and he does 1,400*l*. worth of work, and he receives a certificate for 1,000*l*., it pays the quantity surveyor to go into liquidation. Now I think that clearly sets forth the relation of the building owner, the quantity surveyor and the builder. Well, now, what relation has the quantity surveyor to the architect? This is a very vital matter. There are architects and architects. There are scrupulous architects and there are some that possess very little of that commodity, but I think it is better for me to say as little as possible, excepting that some architects give you drawings that you can measure from, and some give you something which you cannot measure from. So far as I am concerned, there is no relation whatever where there is no business. The architect gives the surveyor a job, but, so far as any contract between the two, there is none.

The Chairman put the vote of thanks to the meeting, which was carried unanimously.

Mr. Hollis, in his reply, said:—The principal points touched upon by the gentlemen who have spoken during the discussion are, briefly, whether or not the bills of quantities should form part of the contract, clause 13 of our Association, and uniformity of fees. As to the first point, should bills of quantities form part of the contract? Mr. Cross, who opened the discussion, contended that such a course was an evil one, inasmuch as it tended to lower the status of the quantity surveyor, and to make him careless as to whether his bill was a good one or otherwise. I cannot go so far as my friend has gone in his assertion, as I think that the production of one bad or even indifferent bill would do a quantity surveyor more harm that twenty good ones could neutralise in the opinion of the employer or the architect for whom he was working. I am still of the opinion expressed in my paper, that making the bills part of the contract would tend to a more thorough consideration of doubtful points in the specification and plans, as, with the bills part of the contract, they would be even more carefully prepared than at present, seeing that so much depended upon their accuracy. Mr. C. John Mann—whom, I am sure, we were all glad to see present—demurred very much to going beyond the law of the land in the matter of a quantity surveyor being made liable, or rather making himself liable, for the inaccuracies in his bill of quantities. But I think with Mr. Cross that this idea is of the "bogey" description, and must in a great measure be due to a mistaken conception of the law as it at present stands in its relation to a quantity surveyor's liability. Does not our clause merely emphasise the law? As I understand the law in its relation to this, it is that the party who pays for the bill of quantities has a claim in common law against the surveyor who prepares it. If it contain inaccuracies directly due to negligence, all that we as an Association insist upon the offender doing (if the case is brought before the Association officially, and it is, of course, the only authority we possess), is to compel the person complained of making the necessary restitution by the threat of expulsion in the event of his non-compliance with such a rule after it has been duly gone into by the Association, which, as Mr. Gate observed, "would be a lifelong disgrace." Mr. Sanders thought that the quantity surveyor's liability should be limited to the amount of his fees in the matter in dispute. This, of course is opening up the whole question of a surveyor's liability, and I can only say that if such an amendment to our articles of association was duly proposed by a member, that the machinery existed for ascertaining the wishes of the majority of the members upon the question. At present I know of no such general feeling amongst our Association. As to a schedule of fees for any particular class of work, public or private, from a humble cottage to a lordly mansion, from a small public-house to a palatial hotel, or from a small village hall to the municipal buildings of a great city, it is, as we all know, a most delicate and difficult subject to deal with. And perhaps I may say here that a "fees" sub-committee has been appointed by the Council of this Association, and I am sure that if they can formulate any scale of fees or assist in any way the object we all have in view as regards this they will do so.

We are all aware that some men will take work at a fee which makes it impossible that good work can result, but how to stop such practices is a very difficult matter even to suggest, not to say undertake. As some at least of you remember, I mentioned at our dinner that a district council in advertising for tenders for preparing bills of quantities for a proposed building stipulated that the surveyor should be a member of our Association. When more public bodies are like this one in that respect, then uniformity of fees becomes within a measurable distance of becoming practicable.

Now, as to writing the specification, I consider the architect, as I mentioned in my paper, the best person to do this, but I also agree with Mr. Mann that a quantity surveyor can do so perhaps in greater detail from his dimensions, and I am sure that every member of this Association will be glad to give his architect all the assistance in his power in this respect.

The question of supplying a copy of the dimensions to the successful firm in tendering for the work has been touched upon by the several gentlemen taking part in the discussion. It is one thing to answer the request of a builder for information upon any one particular point and to supply him with a copy of the dimensions bearing upon that individual item, and quite another matter to permit him to have a copy of the whole of the dimensions; and I agree with Mr. Mann that such a course places a weapon in the hands of a person with which the architect might be unduly harassed. With regard to the question of quantities being ordered and paid for direct by the employer, I cannot quite agree with the gentleman that the quantity surveyor should be paid direct for them. This course might possibly result in the work being more evenly distributed amongst the members of our profession than is at present the case, and would doubtless prevent some architects from placing all their work in the hands of one quantity surveyor; but from my experience of architects the majority prefer to have a quantity surveyor who is cognisant of their methods and style, and the course suggested by my friend might lead to incompetent men being employed. Mr. Laine Pearson I know to be an expert on method and materials. I do not think that I wish to differ with him on any point. I cannot quite agree with Mr. West that because a man is a measurer he is a quantity surveyor. I agree with Mr. West as to the utter impracticability of issuing standard bills of quantities. I am also glad to gather from the remarks of Mr. Pietersen and others that there is such a general opinion that bills of quantities should form part of the contract. In conclusion, gentlemen, I beg to thank you most sincerely for the kind manner in which you have accorded me your thanks. I trust that such meetings as we had on December 6 of last year and this evening may have the effect of spurring us all on to further effort in the interests of our Association. Will you permit me to say that as I have not in the past spared any time or expense in advancing the objects our Association has in view, so in the future I shall always be pleased to give my best energies to the same end. Again, gentlemen, I thank you.

Upon the motion of Mr. L. G. Cross, seconded by Mr. H. J. Camp, an unanimous vote of thanks was passed to the Chairman, who responded, and the proceedings terminated.

No. 13 of the articles of association, to which so many references were made in the discussion, is as follows:—"Any member of the Association who shall supply bills of quantities holds himself responsible for their accuracy, and to pay for all losses caused by his errors therein (when called upon so to do by the aggrieved party). On the refusal of any member to recoup any loss, the Council shall, on the application of the aggrieved party, investigate the matter; and if the member refuses to pay any sum, they (the Council) may find to be due through his negligence, he shall be at once expelled from the Association, and shall not be eligible for re-election until the amount is paid.

"On an application being made to the Council to investigate any matter under this article, they shall consider what would be a reasonable sum to cover the cost of such inquiry, and the applicant shall guarantee the payment of such amount, and shall also pay to the Association such sum as the Council may think fit by way of deposit."

TESSERÆ.

Kilkenny Cathedral.

ALTHOUGH small in actual size, and particularly wanting in height if measured by the English standard, St. Canice is not merely a cathedral in its character, but one of considerable originality of design and of no little gracefulness in mass and in detail. The plan comprehends a choir, with aisles stopping sort of the sanctuary; a central lantern, low tower, transepts with gabled chapels eastwards—that to the south the longest—ranging with the choir aisles; a nave of five bays, with aisles and large south porch. There is, moreover, so close to the end of the south transept as almost to deserve to be reckoned as an integral portion of the structure, a round tower. The style throughout, excepting in the side windows of the sanctuary, which form on each side an equal Romanesque triplet, is First-Pointed, presenting some interesting peculiarities. The east window is a Pointed triplet of equal lights. The treatment of the south transept is peculiarly elegant, two lancets placed wide apart, and above a singularly pretty sexfoil, the whole spaced so as to combine unity of design with division of parts. The same artistic hand may be traced in the nave clerestory, consisting of rounded quatrefoils set lozengewise, of a large dimension and bold treatment, internally set in an ample rear-vault, externally, of course, flush with the wall. The form and size of the windows, which are very considerable compared with the entire height of the church, give to them a striking aspect and tend to create the cathedral character. Their effect is, for example, totally different from the small quatrefoil or round clerestories which are sometimes found in English parish churches. The aisle windows exhibit rudimental tracery in the form of lancets placed rather close together, with quatrefoils in the head, a close approximation to the two-light windows of Early Middle-Pointed. The pillars are rather short and thick, of a quatrefoil section, and made of the black marble of the country, bearing moulded arches. There is not even the rudiments of a triforium. The lantern is vaulted. The battlements, both of the church and of the tower, are bold and stepped, with a single grade in each. The whole building manifests unity of design, and yet the architecture of the Romanesque windows of the sanctuary on the one hand, and of the incipient two-light windows on the other in the nave, tell of a long interval of years. The historian of the cathedral will doubtless clear up the fact. It is certainly noticeable in a church exhibiting so much unity and simplicity of conception. Kilkenny Cathedral was of old famous for the beauty of its painted glass, so much so that Rinuccini, the nuncio who came over to Ireland during the civil wars of Charles I., was anxious to have purchased it, an offer which the patriotism of the citizens of Kilkenny refused to entertain, and so it has perished altogether.

Byzantine Churches.

It is curious how strong a prejudice exists against all idea of the beauty of Byzantine architecture. It seems to be regarded as a stiff corruption of heathen art, a "Jacobean" imitation of Grecian loveliness. That it has in itself the breath of Christian life; that it worked out its own developments; that piety of the deepest fervour and genius of the highest order were poured forth on its thousand temples; that the sublime dome was its own, that shrine raised to the Almighty above the din and the bustle of earth, of which perhaps we have not yet seen the full development—all this is unknown or forgotten. The man who will be affected even to tears with the Romanesque majesty of Peterborough or Treves will acknowledge condescendingly the barbaric splendour of S. Sophia or Cutais. As if there were a moment's comparison between the Western cathedral of the eleventh century, aspiring into Christianity, and the soaring arches and aerial dome of Byzantine glory. True: the parallel ceases with the first Western style. The succeeding epochs of Constantinopolitan art varied only so much from each other as Pisan, or Rhenish, or Lombard, differ from Norman Romanesque. There lacked the vigorous freshness which, in the West, bade old things to pass away; and though Servia at one time trembled on the verge of a Byzantine First-Pointed, the battle of Kossowa swept away her art and her kingdom together.

Decline of High Art.

The efficient cause why higher art at present is sunk to such a state of inactivity and languor that it may be doubted whether it will exist much longer is not a particular one, which private patronage or the will of an individual however great can remove, but a general cause, founded on the bent, the manners, habits, modes of a nation—and not of one nation alone, but of all who at present pretend to culture. Our age, when compared with former ages, has but little occasion for great works, and that is the reason why so few are produced. The ambition, activity and spirit of public life is shrunk to the minute detail of domestic arrangements—everything that surrounds us tends to show us in private, is become snug, less, narrow, petty, insignificant. We are not, perhaps, the less happy on account of all this; but from such selfish trifling to expect a system of art built on grandeur, without a total revolution, would only be less presumptuous than insane. What right have we to expect such a revolution in our favour? Let us advert for a moment to the enormous difference of difficulty between forming and amending the taste of a public. The fourteenth and fifteenth centuries granted to the artists little more than the attention due to ingenious craftsmen; they were, from the object of their occupations and the taste of their employers, the legitimate precursors of Michel Angelo and Raphael, who did no more than raise their style to the sublimity and pathos of the subject. These trod with loftier gait and bolder strides a path on which the former had sometimes stumbled, often crept, but always advanced. The public and the artist went hand in hand; but on what spot of Europe can the young artist of our day be placed to meet with circumstances equally favourable? Arm him, if you please, with the epic and dramatic powers of Michel Angelo and Raphael, where are the religious and civic establishments, where the temples and halls open to receive, where the public prepared to call them forth, to stimulate, to reward them?

GENERAL.

Mr. John Belcher, A.R.A., the president of the Architects' Benevolent Society, has received 50*l.* from Mr. Howard Chatfeild Clarke towards the 500*l.* which it is hoped may be raised in accordance with the terms of Mr. Walter Emden's offer of 50*l.* if nine other gentlemen contribute a like sum. So far, including Mr. Emden, there have been four responses to this appeal.

M. Tony Robert Fleury has been re-elected president of the Société des Artistes Français. M. Damant will serve as president of the jury of the section of architecture at this year's Salon.

An International Exhibition of works of painting and sculpture—the fourteenth of the kind—is now open at Monte Carlo.

The Foundation-stone of the Engineers' Club, New York, was laid on the 23rd ult. by Mrs. Andrew Carnegie. Among the documents deposited in the stone was the programme of the competition for designs, in which Messrs. Whitfield & King were successful.

The Birmingham Drainage Board have resolved to apply to the Local Government Board for authority to borrow 73,000*l.* for the construction of storm-water filters and the improvement of the present filters at Saltley.

Mr. T. T. Rees will read a paper on Monday before the Liverpool Architectural Society, entitled "The Laying-out of Streets, Buildings, Open Spaces, Parks, Planting of Trees, Advertising Hoarding and Smoke Nuisances."

At a Meeting of the committee of the Bishop Ellicott Memorial Fund held at the chapter-house of Gloucester Cathedral on Monday, it was reported that the Dean and Chapter had unanimously resolved that no monument of any kind could be placed in the choir of the cathedral. The Dean and Chapter also objected to anything in the shape of a tomb or cenotaph, but were prepared to admit a recumbent effigy in some other part of the cathedral. Bishop Ellicott stated in a memorandum that if he should be thought worthy of any memorial, what he should wish was simply a recumbent form in stone in the cathedral of Gloucester, similar in support and structure to the celebrated bracket tomb attributed to Abbot Serlo. This wish will probably be acted upon.

The Society for the Preservation of Ancient Works of Art have presented to the Birmingham Art Gallery three water-colour drawings by Mr. T. M. Rooke, R.W.S., of "The Château Faulin."

The Edinburgh Dean of Guild Court have for the first time granted a warrant for a building of ferro-concrete. The structure is a warehouse and factory, and will be erected according to the plans of Messrs. Cousin, Ormiston & Taylor.

The Senate of Cambridge University have accepted the offer of the Surveyors' Institution to establish three scholarships at the University of a value of 80*l.* each and tenable for three years. They will be open only to students of the Surveyors' Institution.

The Secretary of State for India will, in the summer of 1906, make ten appointments of assistant engineers to the Public Works Department of the Government of India. Graduates of the University who have obtained the degree of B.Sc. with honours in engineering will be eligible to compete for these appointments. Applications for the appointments must be made on a printed form to be obtained from the Secretary to the Judicial and Public Department, India Office, Whitehall, London, S.W.

The Edinburgh Town Council were recommended by sub-committees concerned that the plans for the new slaughter-houses should be obtained through competition, and not given over to the city superintendent's department. The Council have, however, decided to throw out this recommendation.

The Town Council of Ayr agreed last week with reference to the rebuilding of the "Auld Brig" and the legacy of 10,000*l.* left for the purpose of rebuilding, that they should not be expected to propose a compromise with the heirs-at-law with a view to getting an Act of Parliament authorising them to apply the fund or part of it to preservative works, and that the Council should not be asked to solicit subscriptions from the public for such works. It was further understood that in the event of the committee being successful in raising funds for the restoration of the bridge the Town Council would hand it over to them to carry out the proposed works as outlined by various eminent engineers; and it was further stated that the bequest fund would be available for the rebuilding of any part of the bridge if that were found necessary. The committee undertook, on that understanding, to take preliminary steps with a view to raising funds for their proposed operations on the bridge.

The Bradford Corporation have determined to purchase for the permanent gallery of that city works by the following artists, which were in the exhibition by the International Society of Sculptors, Painters and Gravers in the Cartwright Memorial Hall:—John Lavery, "A Lady in a Green Cloak"; the late Fantin Latour, "White Roses"; W. L. Bruckman, "Autumn in Sussex"; T. Stirling Lee, two marbles; A. George Walker, a relief in marble—"The Kiss." Also etchings by M. S. I. Bauer, D. Cameron, D. S. MacLaughlin, Oliver Hall and Joseph Pennell.

The Council of the Glasgow Institute of Architects, who, along with Mr. John Shields, are the trustees of the Alexander Thomson Memorial Travelling Studentship, have awarded the first prize of 60*l.* to Mr. James Whitelaw, Loancroft, Uddingston, and the second of 20*l.* to Mr. F. M. Craik, 136 Stanmore Road, Glasgow.

The West Riding County Council have empowered the education committee to authorise district sub-committees to select and negotiate for sites and to employ architects for the erection and alteration of provided schools in their area. It was stated that the work in the county architect's department was absolutely congested, and that out of forty-seven new schools which had been decided upon, and in regard to which the county architect was engaged, in only one instance had a brick been laid.

In Connection with the Watts Exhibition now being held at the Royal Hibernian Academy, Dublin, a series of lectures on his art will be delivered. The first was on Thursday, the 18th inst., by Mr. John B. Yeats, R.H.A., entitled "The Rationale of Art." The following Thursday Mr. W. B. Yeats will treat of "The Ideal in Art," and on Thursday, February 1, Mr. George Russell will lecture on "Art and Literature."

The Lower Austrian Trade Society are organising an international exhibition of building construction, to take place in Vienna in 1908.

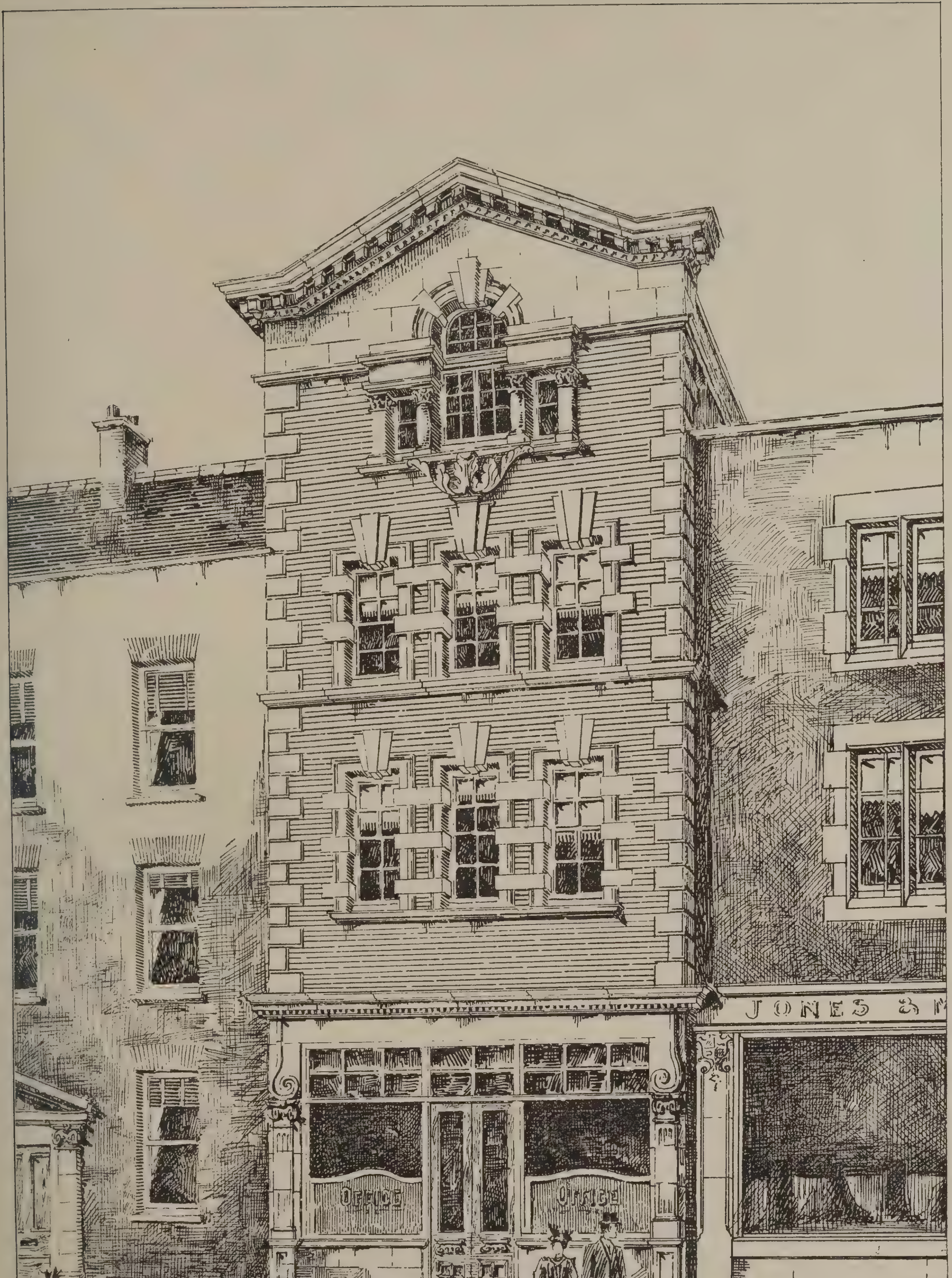
Mr. A. Saxon Snell will deliver lectures before the Sanitary Institute. The first on March 19 will be "Building Materials," and the second on March 21 on "Sanitary Building Construction and Planning, Soil and Local Physical Conditions. On March 26 Mr. W. C. Tyndale will treat of "Sanitary Appliances," and on March 28 Mr. J. Wright Clarke of "Details of Plumbers' Work." On March 30 Mr. A. Saxon Snell will deliver a third lecture on "Ventilation, Warming and Lighting." Mr. W. C. Tyndale will treat of "House Drainage" on April 2.

Mr. Harry Withers Chubb, M.I.C.E., of Burlingham, Chislehurst, managing director of Messrs. Chubb & Maxwell, Ltd., and of Chubb & Sons Lock and Safe Company, Ltd., who died on December 2, aged forty-eight years, as the result of a fall on the staircase at the Colonial Office, left estate of the gross value of 36,574*l.* 15*s.* 4*d.*

The King of Italy, in connection with the Milan Exhibition, has instituted the following six international prizes for inventions:—1. 200*l.* for automatic coupling of waggons. 2. 200*l.* for a handy and simple apparatus allowing electrical labourers to assure themselves without danger of the presence of currents of high power in the conductors they must touch in their work. 3. 400*l.* for some improvement, some process of manufacture or some machine which may have actual merit or intrinsic value and character of novelty. 4. Prize of 200*l.* for the best organisation, shown by experience to be efficacious, for the provision of healthy, pure milk in populous centres. 5. 400*l.* for the best type of popular lodgings for the climate of Northern Italy. 6. 200*l.* for motor boats.

A Mock Arbitration Case relating to land near Highgate will be heard at the junior meeting of the Surveyors' Institution on Monday. Mr. H. Martin will be arbitrator, and the counsel are Messrs. S. A. Smith, C. H. Dinwiddy, J. D. Young and F. S. Chesterton. Witnesses will be called.

The T-Square Club's first meeting and invitation supper is to be held at the Monico restaurant, 46 Regent Street, Piccadilly Circus, W., on Tuesday next, the 23rd inst., at 6.30 P.M.



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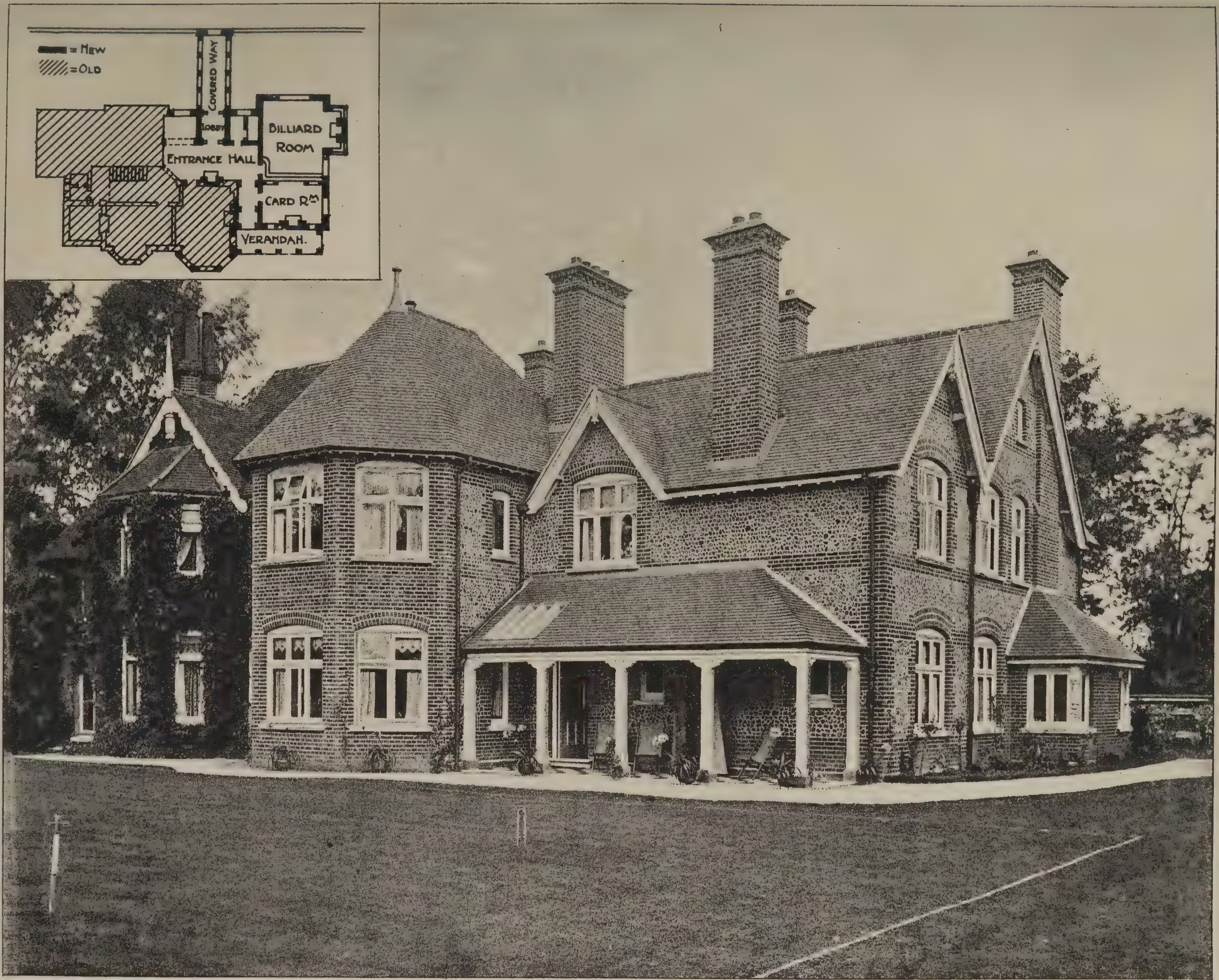

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ADDITIONS TO "GREENLANDS," CATERHAM: GARDEN VIEW.

WALTER E. HEWITT, A.R.I.B.A., Architect.

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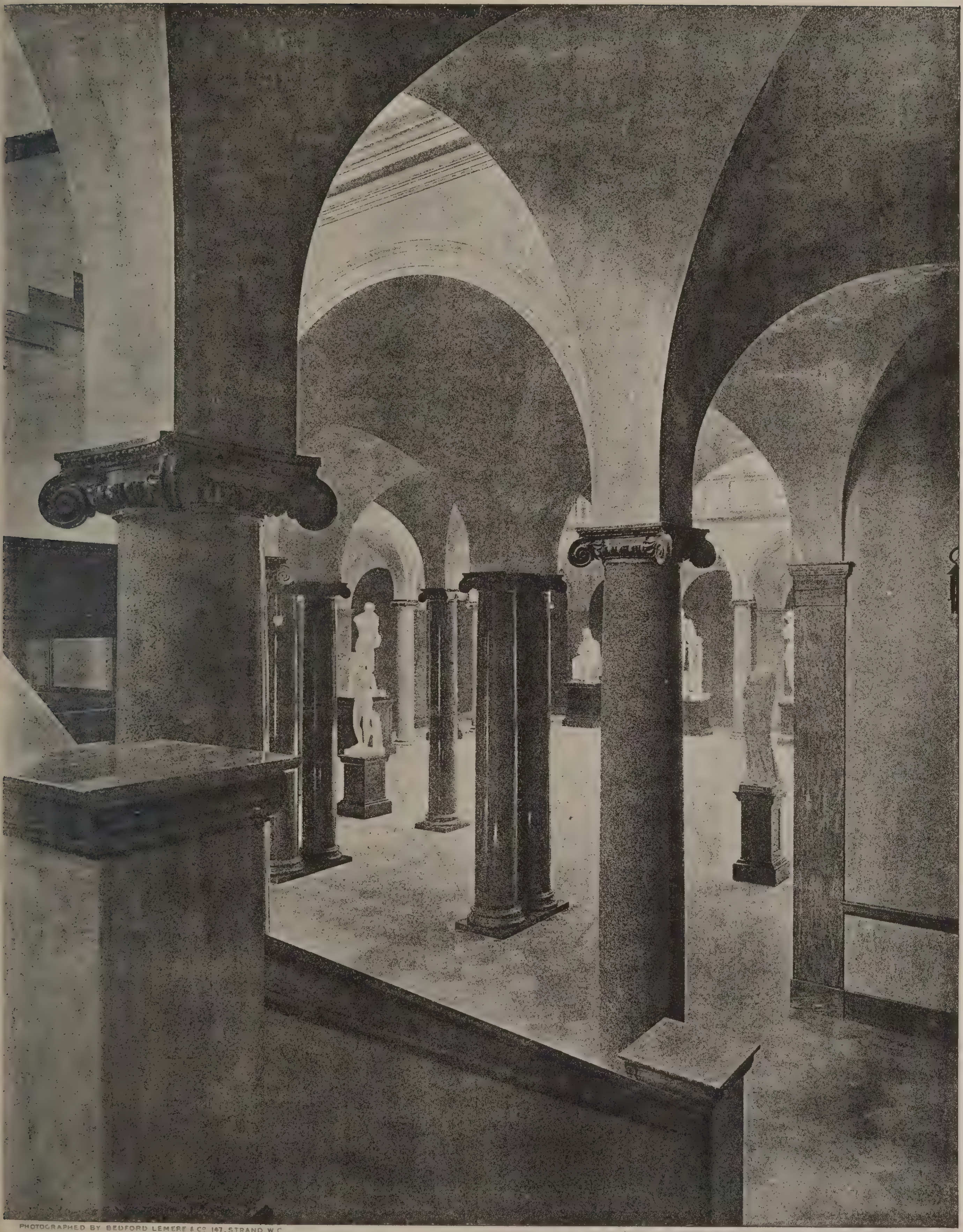
The Architect, Jan: 19th 1906



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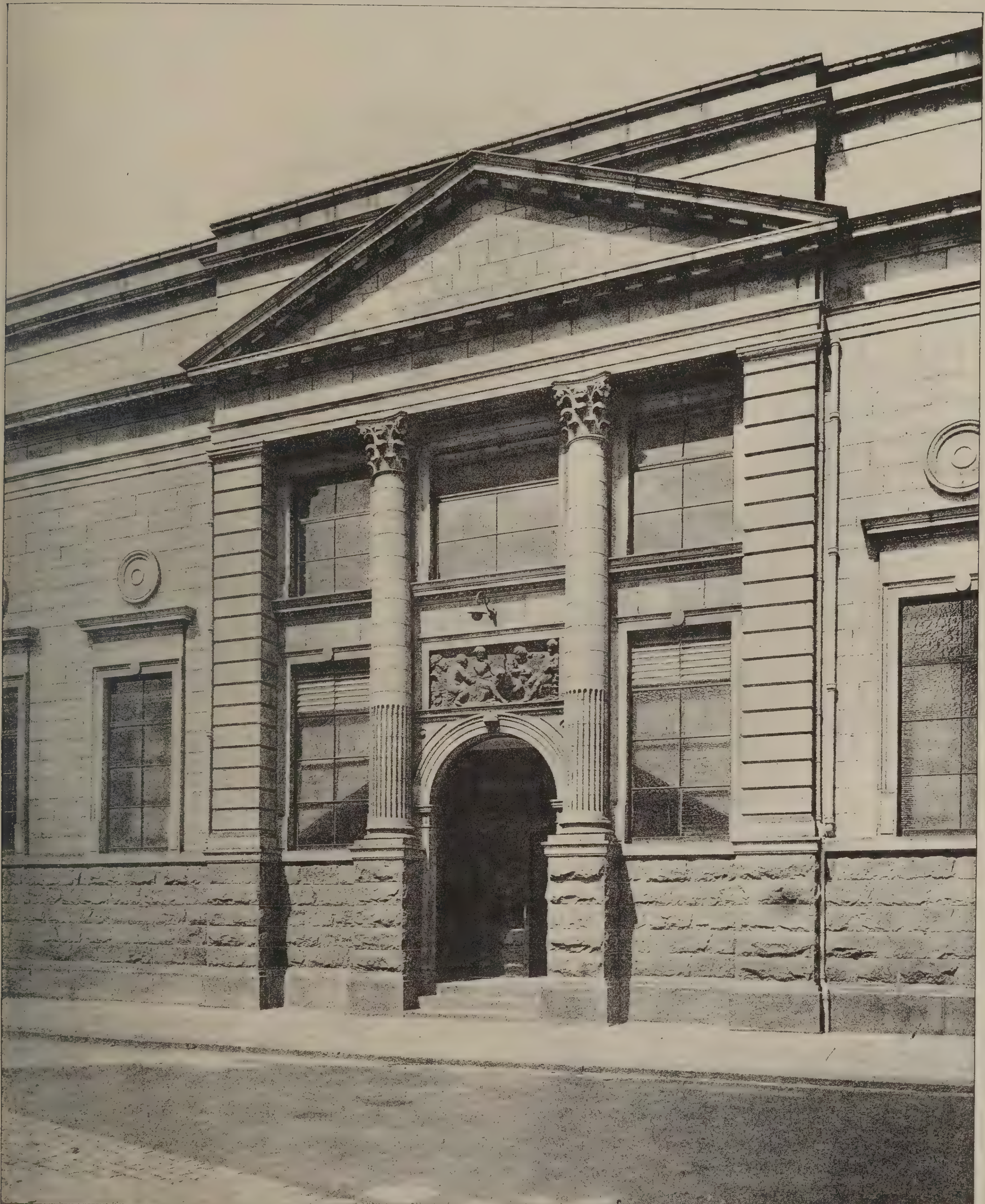
SCULPTURE GALLERY, ABERDEEN.

Messrs. A. M. MACKENZIE, A.R.S.A., & SON, Architects.

The Architect, Jan: 19th 1906



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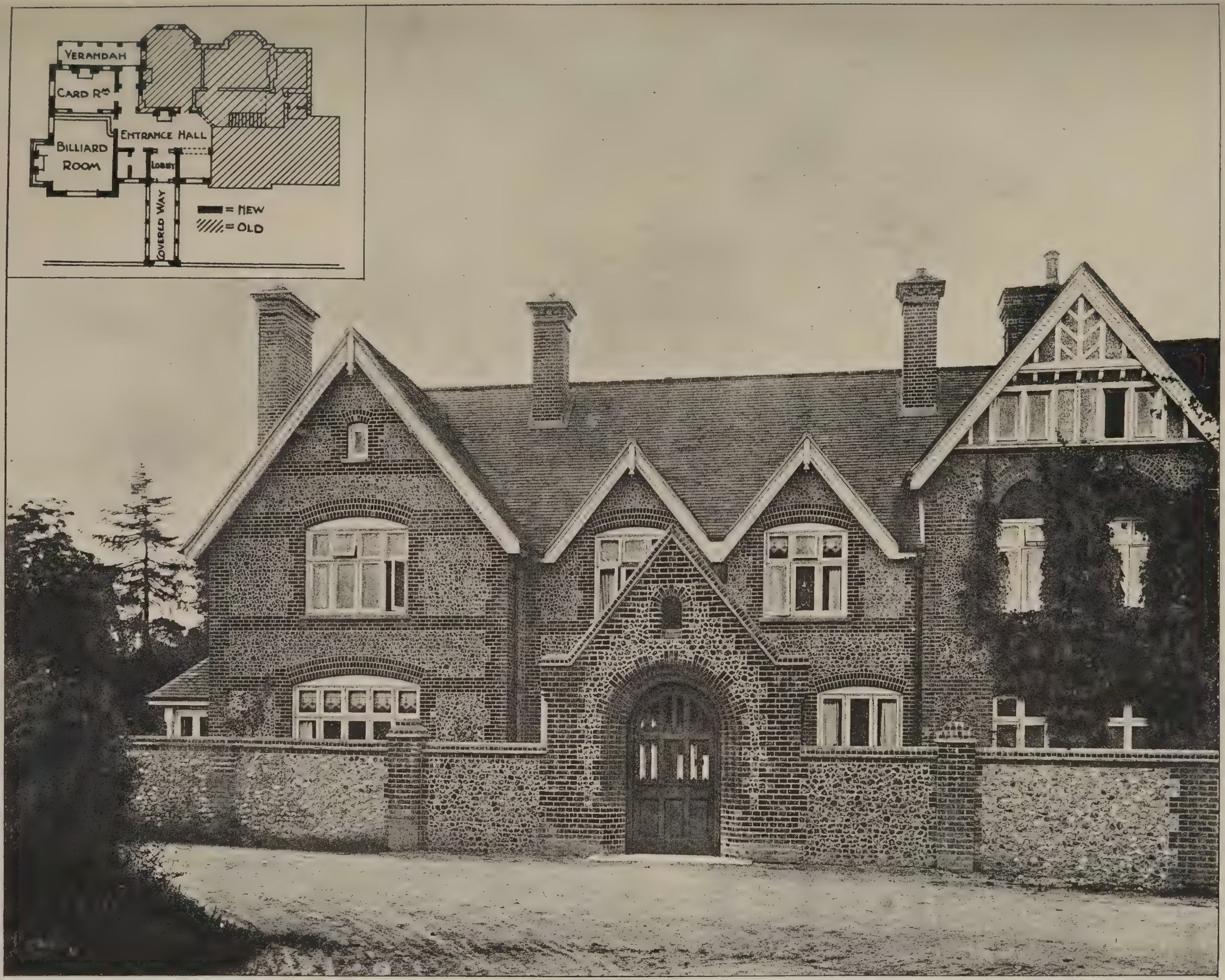

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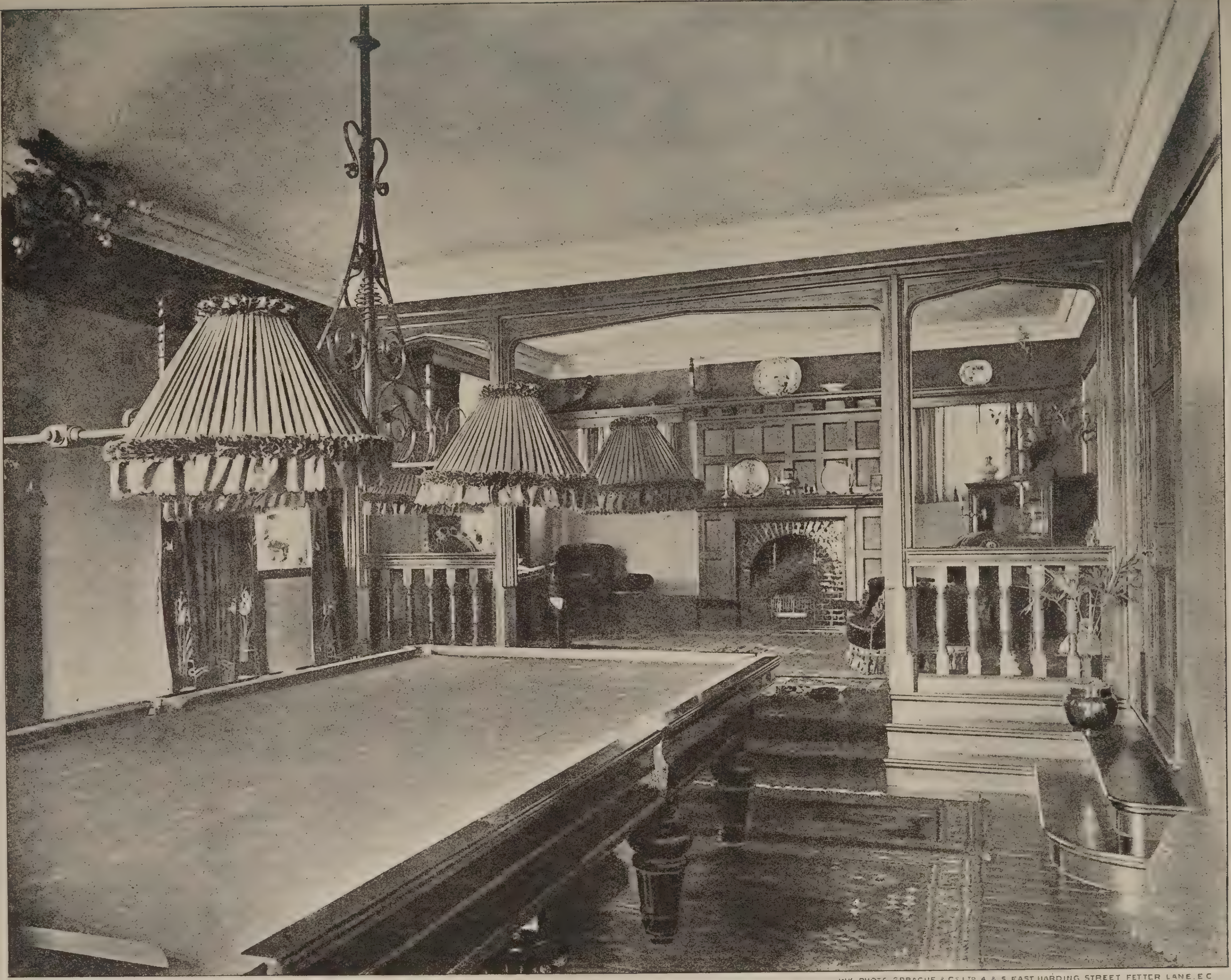
ADDITIONS TO "GREENLANDS," CATERHAM: FRONT VIEW.

WALTER E. HEWITT, A.R.I.B.A., Architect.



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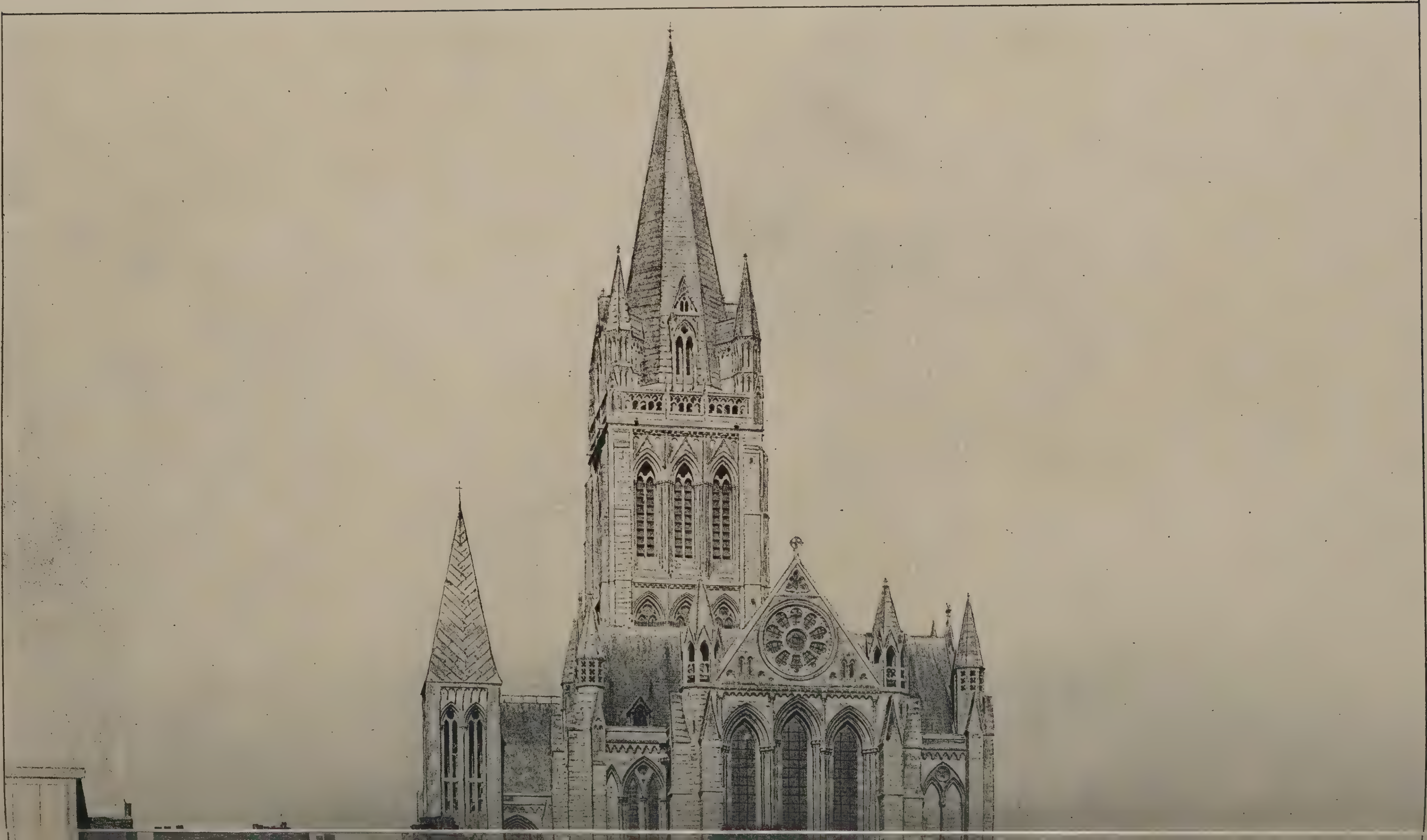
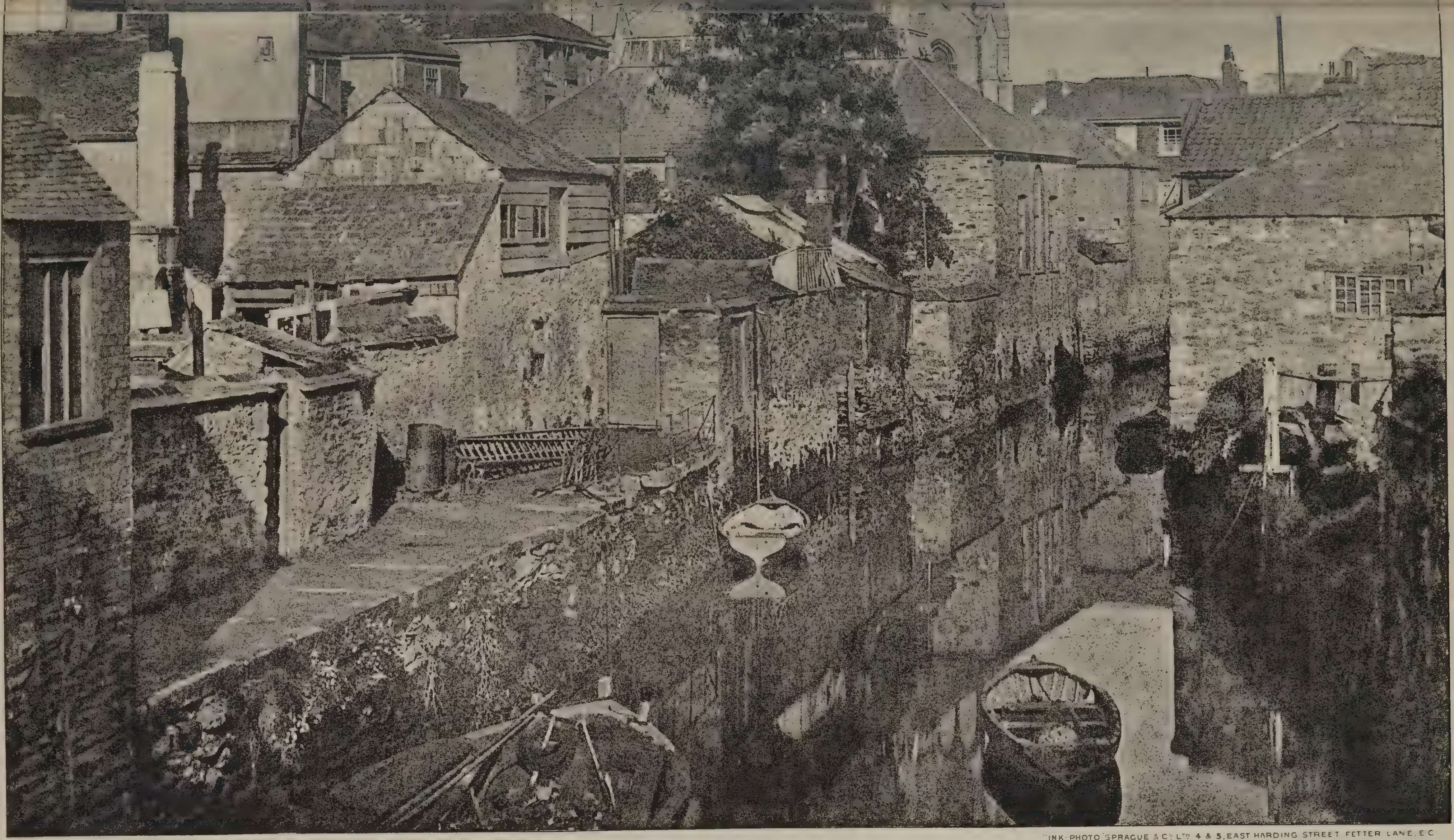
ADDITIONS TO "GREENLANDS," CATERHAM: INTERIOR OF NEW BILLIARD ROOM.

WALTER E. HEWITT, A.R.I.B.A., Architect.

The Architect, Jan: 19th 1906





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Cathedral Series, No. 549.—Truro: View of the East End from the Bridge.

The late J. L. PEARSON, R.A., Architect.

The Architect.

THE WEEK.

It is to be regretted that the poor lady who bequeathed her property for the erection of a Gothic structure in a central part of London (which was to be a joy for ever) was declared to be of unsound mind, memory and understanding. It is of such rare occurrence for anyone to dream of creating a work of the kind, if the will had been carried out in a satisfactory manner other people might be disposed to imitate the testatrix. Miss Lina Beatrice Clayton-Browne, whose will came before the Courts on Saturday last, died on March 24, 1904, in her thirty-second year. In August 1900 she had a will drawn up while staying in Windsor. In it she directed that after the payment of an annuity "the whole of the trust fund and the accumulations of income thereof were to be applied in the erection, without buying land, of an ornamental structure of Gothic design, such as a market cross or street crossing refuge in the style of a market cross, tall clock, street lamp stand, or all combined, in a central part of London, the plan whereof shall be offered for open competition and ultimately decided upon by the Royal Institute of British Architects, and I especially desire that no inscription of my name shall be placed on such erection. In connection with the construction of the said Gothic erection I would wish that no large masses of dark metal, such as dark bronze or cast-iron, or of dead white marble or alabaster should be used, whether as statues or otherwise, as I consider the effect of such large masses to be toneless and blurred, particularly in a moist climate. I should also like no pigment to be used upon any but an absolutely flat surface, and then but sparingly. In deciding upon the merits of the designs I should like particular value to be laid upon the general outline as seen from a good distance. I should like to be inscribed upon the structure in letters of a different tincture to that of the ground, such as bronze letters in marble or stone, the following inscription:—'Many and munificent are the gifts ministering to the ills of the flesh, therefore is this structure dedicated merely to the more neglected gladdening of the eye.' 'A thing of beauty is a joy for ever.' . . . ." If the words were not those of the lady herself there is no question that her intentions were expressed in it, for the solicitor stated she gave him instructions in an exceedingly sensible manner. The value of the estate was about 12,500*l.* Various acts were proved which were sufficient to show that on other occasions the lady's mind was affected. The President of the Probate Court was satisfied, from the evidence, that he must pronounce against the will, and a central part of London has therefore lost an ornament.

Through the efforts of the National Art Collections Fund the *Venus and Cupid* by Velasquez has been acquired. There is a balance of 3,000*l.* owing to Messrs. Agnew, but they have allowed time for its collection. The picture is now on exhibition in Manchester. However, it will be handed over to the Fund next month. The picture was purchased in 1813 by Mr. Morritt, of Rokeby Park, for 500*l.* It was exhibited in Manchester in 1857. The only expert of note who then gave any attention to it was the French critic Thoré, who is known as W. Burger. The picture was, he said, placed high in the gallery at Manchester, owing, he supposed, to English prudery. Burger declared it was impossible to imagine a line more gracious than that which extends from the neck along the figure. He says there is something of Watteau to be seen in the elegant form, and if Watteau had painted bathers of life-size they would have resembled Velasquez's *Venus*. The grey drapery on which the woman lies was, in his opinion, invented as a contrast to the white linen covering the bed and to bring out the flesh tints in the fullest light. The same colour is behind the head, and there are large folds of a sombre red curtain behind the Cupid. It is the figure of the god which has made the woman to be accepted as a Venus, otherwise she would be simply a sleeper or a dreamer. For quality of colour or harmony, the critic believed Velasquez never produced anything more distinguished. It was not, however, possible in Manchester or at any subsequent exhibition to study the picture properly. The removal of the varnish and dirt now allows the figure to be seen as it was left by the Spanish master.

Seven judges in the Court of Session, Edinburgh, would appear to have discovered a flaw in the Workmen's Compensation Act which hitherto was unnoticed. Messrs. Easton & Sons, plasterers, of Bathgate, employed a carter, who was injured in their service. Claims under the Act can in England be determined by arbitration, and a memorandum is to be sent to the Registrar of the County Court for the district, which is to be recorded without fee and to be enforceable as a County Court judgment. In Scotland a Sheriff Court takes the place of an English County Court. In the Scottish case a memorandum of agreement was given to the sheriff-clerk for record. But as the employers disputed its genuineness he declined to record it. Application was made in due course to the Sheriff Substitute and to the Sheriff, but without avail. Then the carter applied to the higher Court, but a plea was entered on behalf of the employers that it was incompetent in such a case to appeal to the Court of Session. Five of the seven judges held that there could be no appeal to the Court. The Lord President declared that the matter was "a gigantic blunder," for a misprint had found its way into the Bill after it had been passed by the House of Commons. His lordship said that the true provision for the enforcement of agreements was that contained in subsection B, section 14, and it was apparent that paragraph 7 of the schedule should have been paragraph 8. The Scottish judges evidently maintain that arbitration is the remedy offered for disputes by the Act, and that registration is not a judicial act.

Anyone who wishes to become acquainted with the history of Paris without much labour will succeed by one or more visits to the Musée Carnavalet. As a building it is associated with Jean Bullant, Du Cerceau and Mansart. The figures on the front are supposed to be the work of Jean Goujon. At one time it was the residence of Madame de Sévigné and her daughter. Since it was purchased by the municipality of Paris it has been converted into the historical museum of the city. So many objects are from time to time presented to the museum, it has become necessary to enlarge the buildings. Plans have been prepared by MM. Brousse and Bouvard, and the works will be commenced as soon as possible. Part of the funds for the purpose has been acquired under rather novel circumstances. The Council had purchased another ancient residence, the Hôtel Lauzun. The son of the proprietor has persuaded the Council to part with the building, and in return he will pay 350,000 francs, which will be used for the enlargement of the Musée Carnavalet.

From the praise so often given to the skilful construction of French buildings it might be imagined that they have immunity from all fire risks. They can at times suffer like buildings elsewhere. A week ago the Palais de Justice at Belfort succumbed to a fire which was caused by the heating apparatus inflaming wood which was near it in the basement. The building was erected as lately as 1901, and was therefore sound. Only the main walls are standing. The records of the different tribunals were saved, except those of the Tribunal of Commerce prior to 1896, which were destroyed. The building was insured.

THE ECONOMY OF DORIC.

IT is impossible to say when the Greeks began to erect temples of stone or even temples of wood. The people who were described by Homer and who came from different parts of Greece, although they respected gods and goddesses according to the support received from them, contrived to dispense with such buildings. If we can accept Herodotus, the Greeks derived the religious ceremonies to which temples were adjuncts from the Egyptians. "The first inventors of festivals, ceremonies and transactions with the gods by the mediation of others," he says, "were the Egyptians, all which I persuade myself the Grecians received from that people." This belief he expresses in more than one place.

It is remarkable, however, that if rites were derived from the Egyptians the Greeks did not endeavour to imitate the Egyptian temples, which, from their grandiose character, must have exercised an important influence in elevating the character of the ceremonies. If we assume that the Doric column was derived from Beni-Hasân, it is strange that further indebtedness did not occur. There were columns of another kind, which the Greeks must have seen, that were infinitely more imposing. But they were avoided. One can hardly believe, too, that the Doric column would have been so generally adopted in Greece if it were a foreign importation. The name applied to it and its character are suggestive of the Dorian race, who unquestionably were long respected as if they were the grand old Tories of a country which was becoming more and more Liberal and Asiatic in its ways.

It would have been an impossibility for the Greeks to have gone far in imitation of the Egyptian style. It was too costly for their resources. In dealing with the ancient architecture of Greece critics are supposed to consider buildings under many aspects, but they are without concern for what is the most important of all, viz. that of cost and finding money to meet the expenditure. Egypt, so far as we know, was ruled by despots. We learn from the Bible that hordes of men were compelled to work for what are called in modern times starvation wages. The whip and the cudgel appear in so many representations we must conclude that overseers were able to utilise all the strength possessed by the labourers. No doubt large numbers succumbed during the operations required for the erection of one of the great temples or tombs, but other unfortunates were readily found to take their place.

Greece, on the contrary, was merely a geographical expression. It was divided into numerous petty states, and in each there existed a limitation to the powers of the rulers. It was only under exceptional circumstances that they could be induced to co-operate for a general purpose. It is therefore misleading to present buildings like those of Olympia or Delphi as if they were examples of local endeavour, for they were in reality extraordinary efforts on the part of disunited Greece. When Keats asked,

> What little town by river or sea-shore,
> Or mountain-built with peaceful citadel,
> Is emptied of its folk, this pious morn?

he was suggesting the character of Greece and its religious festivals. The little towns, each having independence, were so closely situated that Colonel Mure found he was able to visit four places celebrated by Homer during a ride of twelve hours. Each would no doubt possess its temple, and there could be no more economical model than what is known as the Doric temple. In saying this it must not be supposed that the Parthenon was the typical or normal temple. It arose under peculiar circumstances which were never repeated in Greece; and, indeed, it might be said that if it were not for sharp practice which came very near to dishonesty the Parthenon would never have been erected, or if a new temple to Athené became indispensable it must have been of a less unique character.

Sceptics are doubtful about the connection between the Dorians and the Doric Order. But there is no reason to suppose that with all their peculiarities and indifference to various forms of art, that people could not erect a simple temple. It was necessary that, like all Lacedæmonian buildings, it should be simple and cheap. Plutarch, in writing of Lycurgus, says that one of his ordinances, which were levelled against magnificence and expense, directed that the ceilings of houses should be wrought with no tool but the axe and the doors with nothing but the saw. In other parts of Greece the ceiling was probably the most ornamental part of the room, because while guests were reclining its details could be studied. The Spartan who pointed to the ceiling and asked his host in Corinth whether trees had square trunks suggested a difference between the two great divisions of Greeks, viz. Dorians and Ionians. What was true of the ceiling was true of other parts of the house, and those of the Dorians were of the simplest class. Many of them must have resembled colonial log-houses or shacks. It was impossible to have fine architecture with such restrictions. But any man who was able to construct a house would have been competent to erect a primitive temple for the Dorians. Even in an advanced period, the planning offered few difficulties in any part of Greece. There was no necessity to accommodate a congregation, and a Greek temple may be said to resemble a modern sacristy rather than a church. Some have supposed that a temple at its best was no more than a reproduction in stone of a primitive timber hut. The economy with which a building of the kind was erected was demonstrated by the number of imitations of Greek temples erected during the past century in English towns to serve for chapels and meeting-houses. It certainly is creditable to the Greeks that they upheld the form of their temples to the last and resisted all temptations to adopt a different plan. That, no doubt, might arise from poverty. But the Roman emperors with unlimited money at their command respected the *genus loci* and built in the Greek manner.

It is sometimes complained in modern times by projectors of churches that in districts where houses are costly the church is of a mean character. An objection of that kind could never be raised in Greece. Even great men seemed to be indifferent to what we know as comforts, and were content with tumble-down dwellings. There need be no better proof of the character of the domestic architecture than the words used to signify the burglar. He was known as *toichoruchos*=wall-borer, or as *toichoruktes*=a wall underminer; in other words, there was no difficulty for a member of what Donnegan calls the profession of a burglar, by the exercise of a little force, to enter a house at the side or beneath it. One of the consequences was that several men adopted that mode of earning a livelihood, for the Spartans were not the only Greeks who were trained in stealing and living at the expense of others. Some compensation for bad building was found in the temples which were the safe-deposits of the Greeks. If unadorned they were at least strongly built with massive masonry beneath. Burglars, it is supposed, were afraid of breaking into and stealing from a sacred place. That was another reason for excluding people in general from the interiors of temples. As they were only allowed to gaze on the exterior or peep through one of the doors, they were spared the temptation to attach public or private treasures.

We believe that many Greek temples were of a kind which was not beyond the means of one of those little towns which Keats had before his mind's eye when writing about a Greek urn. Large and small buildings were so nearly alike in architectural character, it might well be imagined they were equally acceptable to the divinities. It will, of course, be said that although the columns, pediments, metopes, &c., did not differ much in form, yet the sculpture was able to impart dignity which elevated costly buildings above those of a humble kind. There is no certainty that sculpture was always considered an indispensable adjunct to a temple. There are Sicilian temples which date from an early age, and which are most impressive, though there is no trace of sculpture on frieze or pediment. Sculpture was undoubtedly an important accessory in a Greek temple, and it afforded pleasure to those who were compelled to remain outside the building. But it must be allowed that Doric temples from which nearly all the figures have been removed continue to be interesting through the effect of the architectural lines. With the Greeks, as in modern times, sculpture of a superior quality was costly, and, as we have remarked above, the Parthenon owes its existence to extraordinary circumstances which did not find approval among all the Athenians of the time.

The people charged Pericles, who then ruled, with having brought disgrace upon them by removing the public treasure (10,000 talents) of the allies from Delos and retaining it in his possession; no doubt the Greeks were insulted by seeing money which had been collected to meet the expenses of a war lavished on statues and temples for Athens. Pericles met this boldly by saying that the Athenians were not compelled to furnish an account of how the money was expended; that the allies had been defended, and therefore that the Athenians were entitled to use the money obtained for defence in any way they pleased; that the men employed in constructing great edifices and other works of art had as much right for consideration as soldiers and sailors. These were specious arguments, and it is evident from the extraordinary haste employed in the execution of the new works at Athens that Pericles was afraid he would have to yield the money. "If I boast," said Zeuxis, "it will be of the slowness with which I finish my work"—a saying which the modern British workman appears to have adopted as a guide. The people of Athens were fond of leisurely occupation, and they wondered when they saw such remarkable structures erected in so limited a time, especially when it appeared as if antiquity and modernity were united in them.

Such lavish outlay was contrary to the Greek spirit, and was peculiarly out of place with a Doric building. The works, however, revealed what could be done for the improvement of a city in which it might be supposed that any change would be destructive of its character. It was believed that 1,000 talents were expended on the Parthenon alone, an unprecedented amount, but it is impossible to discover what proportion of that sum was laid out on the marbles which are now in the British Museum. The sacrifices which Pericles compelled the Greek allies to undergo for the sake of Athens created enmity throughout Greece. The Athenians having unexpectedly received money from the public treasury clamoured for more, and when it was not forthcoming they made charges against Pericles. The whole history of the transaction suggests that the old system of raising temples had been departed from, and although Athens was beautified by the extravagance—for nearly the whole 10,000 talents of the Panhellenistic treasury were disbursed—the people considered that Nemesis would not permit the innovations to remain unpunished, although they were supposed to be performed in honour of Athené.

Professor S. H. Capper arranged to give two free public lectures at the University of Manchester (Department of Architecture) on "Ancient Building Construction." The date of the second lecture is January 31.

A Sub-Committee of the Lord Provost's committee of the Edinburgh Town Council last week visited Greyfriars Churchyard, Princes Street Gardens and the Calton Hill, for the purpose of making an inspection of the public monuments. The latter are in many cases showing the effects of the weather, and it was with the object of considering how to secure their preservation that the inspection was made.

ENGLISH CATHEDRALS.*

The second series of Mr. Bumpus's descriptions comprises the cathedrals of Canterbury, York, St. Paul's, Winchester, Norwich, Peterborough, Exeter and Wells. He would be a courageous man who would endeavour to assess their respective values. Each of them includes features which are unmatched. Although one of them is a departure from what we might almost call the natural style of an English cathedral, it is better as it is than if it had been a seventeenth-century improvement on its predecessor. It must have been the English Mediæval cathedrals and not those of any other country the late Cardinal Newman had in his mind when he said:—"For myself, certainly, I think that that which, whatever be its origin, is called Gothic, is endowed with a profound and a commanding beauty such as no other style possesses with which we are acquainted, and which probably the Church will not see surpassed till it attain to the Celestial City." These words were written by a man who at the time was engaged in carrying out the behests of the Pope and who felt peculiar affection for Roman buildings. But the Renaissance, although adopted for the foremost of churches, was not so satisfactory to the old logician as English Mediæval work, for, as he said, "No other architecture, now used for sacred purposes, seems to be the growth of an idea, whereas the Gothic style is as harmonious and as intellectual as it is graceful." It is, however, unnecessary to have recourse to either literary or artistic authorities concerning the value of English cathedrals. They are their own exponents, and their power has been exercised not only on Americans, Australians and Canadians, but on foreigners. They suffer under the disadvantage of being used for services of a kind which were unknown to the architects who designed them. But in spite of this unfitness they possess other qualities which are irresistible.

It is not to be expected that any new discoveries will be made concerning the history of English cathedrals, and Mr. Bumpus is therefore obliged to follow several predecessors when he describes the fabrics. But, as he is fortunately endowed with an enviable love of stained glass and of music, he is, as we have before pointed out, able to give attention to subjects which other writers treated as if they were of minor importance. Thus, in discussing the windows of Canterbury, we find the following anecdote of Gerente, which may be new to many:—

> During his visit to England in 1847, Henri Gerente, the distinguished French glass-painter (who had been sent to Oxford by the Government of Louis Philippe to examine a very valuable collection of drawings of architectural and monumental remains which, after having been made for the French Crown, had, in consequence of the great revolution, found its way into the Doucean collection), wished to take tracings of this thirteenth-century glass at Canterbury. But, to his great and just indignation, he was refused permission to exercise his pencil within the walls of the cathedral; indeed, it was only in consequence of its being in question that he was to work for the church that he was, but a very short time before his death, enabled to obtain the sought-for permission. On coming to examine and make his tracings of this glass, which he thought he could prove to be by the very same artist as the unrivalled windows in the pourtour of Sens Cathedral, one of which illustrates the history of Becket, Gerente found it in such a state that the substance could be scraped off to a considerable depth with the finger-nails.

In York there is much to gratify all lovers of stained glass. In describing the grisaille work of the Five Sisters, Mr. Bumpus recalls that Salisbury Cathedral was entirely filled with similar glass. But under Wyatt workmen were employed to remove it in order that the lead bands might be melted. Peckitt, who in the eighteenth century was working in York, is described by Mr. Bumpus as "forming a link between the Van Linges, Greenbury, Giles and the Prices of the Stuart and Early Hanoverian periods, and Willement, Wailes and Hardman of the Gothic Revival." St. Paul's is not remarkable for its stained glass. But at an early time Joshua Price offered to adorn the upper window towards the east with a figure of St. Paul and ornament for 150*l.* The proposal was not accepted, and the cathedral was without stained glass until 1867. Thornhill prepared sketches for the pendentives of the dome which were afterwards secured by William Burges, and some were published in *The Architect.* The modern mosaic which is seen in the apse and the quarter-domes is said by Mr. Bumpus to be most gorgeous. But, he adds, "all who are possessed of any sense of the importance of architectural consistency of style and feeling must acknowledge that, chronologically considered, the adoption of these designs has been, to put it in the mildest form, a fatal mistake."

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* *The Cathedrals of England and Wales.* By T. Francis Bumpus. Second series. (London: T. Werner Laurie.)

The organ in Winchester Cathedral was, it appears, erected by a man named Avery, who must have been a Bohemian of an unusual type. He used to take pipes from one of his organs and use them elsewhere. At length he died in Giltspur Street prison, and was buried in St. Sepulchre's at the expense of his workmen. Dr. Wesley, the organist, proposed that the present instrument should be placed upon the choir screen. The cathedral has had the advantage of the services of several able musicians. The restoration of the great screen by Messrs. Farmer & Brindley receives merited praise.

In Norwich much attention was also given to the choir. Dr. Z. Buck, who was organist from 1819-77, was evidently a humourist, but he was a good drillmaster for the boys. Peterborough now possesses an organ which was presented by an anonymous donor at a cost of 4,400*l.* There is on record an account of a visit to the cathedral in 1786. At that time the keys of the organ "were so worn that it was like putting your fingers into a row of ivory spoons." In regard to the improvement of choirs and instruments, there can be no question of modern progress. At a time when elsewhere there was neglect the services in Exeter Cathedral were conducted with dignity and decorum. Here also the influence of Dr. Wesley was exercised. The choristers at Wells must at the beginning of last century have had a license which, it is to be hoped, was unique. Turle, who was for so long connected with Westminster Abbey as organist, was in early life one of the singing boys, and he related that the nave was a recognised playground. He remembered having driven a stone through one of the stained-glass windows and injured a figure of St. Andrew.

It must not be supposed that Mr. Bumpus confines himself to music or stained glass. We have referred to those parts of his book because they help to give it a personal character, but the histories and descriptions are well adapted for the use of visitors to the cathedrals and to the students of ecclesiastical history. The volume is illustrated by photographs.

VENTILATION, HEATING AND LIGHTING.[*]

THE comfort of a dwelling in a large measure depends on the subjects which Mr. J. W. Thomas has treated in his new volume. They have interest, therefore, for every man and woman. The author wisely appeals to people in general rather than to those who may have only a special or technical interest in the means which are required for ventilation, warming and lighting. It might be announced that the pages are addressed mainly to those who are about to become tenants and purchasers of houses. Mr. Thomas, in fact, often descends from his professional elevation and speaks as one resident in a villa might do to a friend who wished to become a neighbour. The defects which are likely to exist are pointed out and suggestions are offered for their removal. The book has therefore many advantages and merits to be widely circulated.

There is no use in denying that many people when they take up their residence, in new houses especially, are disappointed when they find inconveniences of various kinds awaiting them. It is not only in long terraces which have been erected with expedition that annoyances have to be encountered. Mr. Thomas tells us that he found "on a recent visit to Sandringham that cowls and long tubes had been added to nearly half of the chimneys on the newer portion of the King's residence, with a view to stop the fires smoking, whilst the chimneys on the older portion of the building were not so disfigured." Chimney-cowls of fantastic shapes can be observed in the principal streets of London and in continental cities also. Indeed, some people believe that their use is inevitable. There is so much concerned in combustion it is only by experience that the best way of escaping annoyance can be arrived at. In referring to some colleges in Oxford Mr. Thomas tells us that where the flues are not more than 9 inches by 9 inches they do not smoke, while those of a smaller size smoke badly. But he mentions one college for girls "in which two rooms are allocated to each student, but being badly placed as to wind suction upon the inlets, and the grates being faulty, the ventilation requires much watchfulness to make them habitable."

This last sentence suggests one peculiarity of Mr. Thomas's method. In books of a similar kind it is assumed that as nature abhors a vacuum there is air everywhere, but as it is invisible it is supposed to work in a volume, we might say, almost stupidly, and therefore has few qualities. Mr. Thomas believes that we have not discovered all the conditions which belong to air because there may be some of an electrical kind which have yet to be revealed. But he has observed enough about air to treat it as if it were almost a living thing. Dickens, in his "Martin Chuzzlewit" and in one of his Christmas stories, represented wind as if it possessed some human qualities. Mr. Thomas does not, of course, go so far, but he explains that even in an ordinary house we have to deal with a force which may become a friend or a foe. Here, for instance, is a passage which explains some of the shortcomings which visitors have found in houses when they take a holiday at the seaside:—

> The writer prefers seaside resorts which have bold natural beauties, and so usually visits those places situated on high cliffs. From a careful study of the wind's action upon the front of the cliff or terrace, and the subsequent effects upon the chimneys of the houses, the reason of one of the unpleasant experiences often observed when the wind blew stiffly became evident. It was found that the houses on the front facing the sea were generally connected to the main drain which ran along the promenade and eventually joined the outfall sewer, which was led some distance into the sea. No matter what the state of the tide the smell from the drains could be observed when the wind blew towards, or at right angles to, the high sea-front, and in many towns several of the manholes and air-shafts had to be closed carefully, as the smell was so intolerable. Thi emission of gas from the drains was attributed to the wind pressing against the mouth of the outfall sewer and the gases being forced inland in consequence. The writer was never satisfied with the explanation because the outfall sewer is rarely exposed at any seaside resort even a ordinary low tide. After noting the upward twist and suction caused by the wind impinging against the front o a cliff the reason for the offensive exhalations from th drains was explained—the gases were sucked out of th drains instead of being forced out by the wind. The sanitary authorities at seaside towns situated as described d not fully realise the grave dangers which may result i consequence of this suction of gases from sewer ventilator and the swirl which results from the wind's action near th ground level. For instance, let us suppose a gust of win is blowing against the cliff; the suction upon the drain

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[*] *The Ventilation, Heating and Lighting of Dwellings.* By J. W. Thomas, F.I.C., F.C.S., Scientist in Ventilation and Heating. (London: Longmans, Green & Co.)

along the front or for 100 yards inland perhaps is considerable. The next moment the gust ceases, and as there is a partial vacuum formed over the area mentioned the air is instantly drawn back, the consequence being that the gases from the drains which had been drawn upward descend and flow along the road and into the houses.

The unexpected effect of wind acting on buildings is explained in other parts of the book, and all who have to build houses in exposed situations should be acquainted with Mr. Thomas's conclusions. For instance, it is pointed out that occasionally the wind blowing over the top of a soil-pipe causes a suction sufficiently powerful to depress the water by oscillation in the water-closets, and on that account the top of the tube should not be left unprotected.

The subject of grates and stoves is considered at length. Mr. Thomas, however, believes in the superior advantages of heating by hot-water or hot-air. For lighting he favours electricity. In his own house he has lights throughout, "using the lowest candle-power lamps of higher voltage than the current so as to consume less. The charge is *6d.* a unit, but for twenty-eight lamps and three plugs the year's bill is only *7l. 7s. 8d.*" The book, which is largely inspired by the author's own experience, is well adapted for general use and should be found on the bookshelves of every careful householder.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W., Mr. John Belcher, A.R.A., president, in the chair.

Deed of Award of Prizes and Studentships, 1905-6.

The Institute Silver Medal and 25 Guineas (essays). Subject: Biography of a British architect (deceased) practising in the nineteenth century. Six essays were submitted, the medal being awarded to Mr. W. H. Godfrey, 11 Carteret Street, Queen Anne's Gate, S.W., Mr. M. Shaw Briggs, of Otley, Yorkshire, and Mr. A. E. Bullock, of Chiswick, gaining certificates of honourable mention.

Institute Silver Medal and 10 Guineas (drawings). Subject: Measured drawings of ancient buildings in the United Kingdom or Abroad. Fifteen competitors submitted drawings, the award going to six strainers (Hampton Court Palace), Mr. A. E. Poley, Willowbank, Hampton Hill, and Mr. G. J. Coombs, of Portman Road, Boscombe, five strainers (Christchurch Priory, Hants). The work of these two competitors was so equal in merit that the Council awarded both of them silver medals. Mr. P. W. Lovell, Hampstead Lane, Highgate, secured a certificate.

The Soane Medallion of 100*l.* (for continental travel). Subject: Realisation of the ideal mansion described in Bacon's "Essay of Building." This competition, which attracted ten sets of drawings, was gained by Mr. W. S. George, Oakenclough, Limehurst, Ashton-under-Lyne, a certificate of honourable mention and ten guineas being awarded to Mr. Robert Atkinson (Nottingham).

Owen Jones Studentship, Certificate and 100*l.* (for travel and study of colour). Five applications with drawings were received. Mr. Chas. Gascoyne, Gray's Inn Square, W.C., gained the award, Mr. W. J. Davies, Thornton Dene, Sidcup Park, Kent; Mr. A. R. H. Jackson, Royal College of Art, Kensington, and Mr. A. D. Nicholson, Park Grove Terrace, Glasgow West, each securing prizes of 5 guineas.

Pugin Studentship: Silver Medal and 40*l.* (for travel in the United Kingdom). Twelve sets of drawings were received, the medal being gained by the six strainers of Mr. G. Drysdale. Mr. Jordan Green, South Road, Handsworth, Birmingham, was awarded a certificate of honourable mention.

Godwin Bursary: Silver Medal and 65*l.* (for travel outside the United Kingdom). Applications and drawings were submitted by five competitors, those by Mr. H. Inigo Triggs, of Bedford Park, London, receiving the award.

The Tite Prize: Certificate and 30*l.* (for travel in Italy). Subject: Design (according to the principles of Palladio, Vignola, Wren or Chambers) for an open-air swimming-bath with an arcaded or colonnaded enclosure. Twenty-one sets of drawings were received, the prize being awarded to Mr. A. G. Horsnell, South Primrose Hill, Chelmsford; a medal of merit to Mr. C. B. Pearson, Cheapside, Lancaster; and a certificate of hon. mention to Mr. C. L. Wright, Bolingbroke Road, West Kensington.

Arthur Cates Prize: 40*l.* Mr. John H. Markham, of Glenbrook Road, West Hampstead, the sole competitor, was successful.

The Grissell Gold Medal and 10 Guineas (for design and construction). Subject: Design for stone skew bridge. Six designs were submitted, Mr. G. Nott, of Market Street, Leicester, securing the award.

Ashpitel Prize. Mr. J. H. Markham, Glenbrook Road, West Hampstead.

A Prize to the value of 10*l.* was awarded to Mr. A. R. Myers, Bruntsfield Place, Edinburgh, in recognition of his work at the special examination in November, 1905.

Three papers were read by Mr. John M. Swan, R.A., Mr. Montague Fordham, M.A., and Mr. Walter Gilbert on

Metalwork.

Mr. John M. Swan, R.A., in his paper, apologised for the frequent allusions he was going to make to ancient art. He was so far penetrated by a profound reverence for the past that he felt we were but pigmies peeping through the legs of the Colossus of antiquity. The thought of the Colossus of Rhodes that strode across the harbour where ships sailed out and in, and of Bartholdi's magnificent statue of Liberty at the entrance to New York Harbour, made him wonder when a statue of Britannia would arise from the waves in bronze of colossal form in the same spirit of antiquity, and emblematical of ourselves and of the sea-girt isle to which we owe our greatness and power. Since the eighth century Japan had produced a series of colossal works in bronze, the most notable being the Daibutsu, a seated figure 53 feet high, breadth of face 9 feet 4 inches. The processes employed by the ancients are so shrouded in mystery and so difficult to verify that we cannot at this distance speak with absolute certainty or form a clear judgment upon them. All the varying changes of colour mentioned by the ancients are occasioned by the nature of the alloys. Many metals combine together when melted, and only remain in union within certain ranges of temperature by reason of the wide differences of their melting and solidifying points. In ancient bronze the proportions of tin mixed with brass or copper and of copper with silver seem to have been—copper 71 to 87 parts, tin 3 to 6 parts, lead 4 to 21 parts. There are also traces of iron. With ourselves in ordinary bronze, 96 copper and 4 of tin are generally used. The Japanese are the real authorities for treatment of colour in metals to-day. They combine such extraordinary manipulative skill with artistic taste in carrying out any imaginative work. The superiority of French workmanship is doubtless due to their fine artistic instinct allied to their excellent art training. The Persian and Arabian metalwork with large plain surfaces of copper and brass might, treated in a bas-relief manner, be well adapted by ourselves for panel treatment for interior decoration. Describing the process of casting in cera perduta, which we get from Benvenuto Cellini, the author recalled that it is now about twenty years since the first cera perduta castings were made in this country. First, an ordinary piece mould or gelatine mould is made from the plaster model. Then a wax casting is run from the mould, to which are attached the runners and gates for the flow of metal and vents for air or gases. Afterwards the wax is cored, and an external covering-in mould covers the whole. It is then placed in a muffle or furnace, the wax melted out, and when the mould is dry the metal is passed in that replaces the wax model. The founders' wax is made of Gambia, Italian or native beeswax and resin coloured with vegetable matter or vermilion. The colouring of the wax is important, as if some metallic pigment or earth colour were employed it would cause a residue in melting out that would destroy the casting. Speaking of the bronze statues of London, Mr. Swan said everybody must be struck by their uniform dull, heavy, monotonous black. It was a most unsatisfactory state of things for both public and artist. Was it not possible in metallurgy to discover an unchangeable alloy? The black coats of Landseer's lions in Trafalgar Square do not recall the orange tawny glow of the king of beasts. The author expressed his preference in many cases for gilded statues or monuments that would better resist the action of the atmosphere and have a more decorative effect. They might appear too garish at first, but London fog would soon tone the surface and take off the glare of new gilding. Fine colour is a source of joy to us all; certain it is that a gilded statue, assuming the artist's conception a beautiful creation, would appear as a sunbeam in our streets in the dull foggy weather, and in the summer, in sunshine with blue skies overhead, would be a joy for ever. The "noble rust," the antique patina, is not naturally formed in the atmosphere of London, or our statues of malachite and copper domes would be a delightful green. The author hoped no more of their ancient landmarks in London would be removed, lamenting especially the old-time Lion of Northumberland House and the old familiar figure of the Duke of Wellington at Hyde Park Corner. He should like to see Boehm's statue of the Duke higher up. Whenever he took his walks abroad he cast his eyes around for fountains playing in the sun-baked square, the whirl of pigeons, the flower patches; he was always looking for them, also for some decorative groups as a relief from the historical personage on a pedestal—something to relieve the dull ache of town and the monotony of heroes in trousers. Bronze bas-relief or gilt bronze in relief on marble should be fine as a decoration—even with us. He did not see why we should have less devotion for our heroes by giving them a more beautiful decorative aspect or less feeling for our architectural surroundings. Colour would be subservient to sculpture and a glorious handmaid to architecture; the charm of mosaic is capable of wedding a beautiful monumental design; at present our monuments are barren of colour, especially deficient in treatment of the pedestals and bases. What can be more unsympathetic than the basins of the fountains of Trafalgar Square? Here is room for the sculptor as designer and play of coloured metals and water. Gilded bronze can work in unison with black bronze, and aluminium may be looked after, so that it does not become the uniform London black.

Mr. Montague Fordham said he was anxious to draw architects down into the workshops, which would have the double advantage of giving them more knowledge of the actual treatment of metal and of creating a closer bond between architect and craftsman. With this object he gave particulars of the tools used in the ordinary working of copper, bronze and iron, and followed with some notes on the nature of the metals and their proper treatment. Having discussed the technical side of his subject, and shown examples of the admirable work produced by craftsmen of the day, he referred to the want of encouragement the craftsmen received from architects, who rarely entrust their metalwork to craftsmen, but deal with trade firms. Doubtless this was much less trouble. A trade firm employs a traveller, who is at the architect's beck and call, who will supply a design in any manner, adapt it for any metal, and cut his work down to any price. How was the designer-craftsman, the master-craftsman, who could turn out magnificent work under different conditions, to compete with such a system? He doubted whether any self-respecting craftsman would employ a traveller, neither should the architect expect it. If the architect would give the craftsman the slightest encouragement he would gladly place at the architect's disposal the result of his practical study and knowledge. The craftsman worked with the definite ideal of a revival of the crafts, and aimed at producing a really beautiful piece of work. There was no reason why the metal craftsman should not be as trustworthy in his arrangements as the ordinary man of business. They had got over the disease of their youth, the so-called artistic temperament, and had business organisation to support them. Again, the normal prices of the metal craftsman need be no higher than the ordinary trade price. If architects invited the craftsmen to help them in the detail of their metalwork, they would, whilst taking their share in the work of the revival of the crafts, obtain at the same time an undoubted distinction of detail in their work. This type of distinction he feared trade firms could not give, for the very essence of the difference between good work and poor work lay only partially in the design, and largely in the conditions under which it is carried out and the spirit in which it is made. It was a question of methods of organisation and of workshop inspiration: for example, in relation to such work as altar-crosses, chalices, &c., used for a definite religious purpose, it was of the utmost importance to realise that unless the workshop and men were embued with some element of inspired enthusiasm the work would always be an artistic failure. The matter of the revival of metalwork rested largely with the architects. It was for them to say whether the small industries now growing slowly were to be allowed to flourish; if so, he felt great hope that the present century would become famous in all time for the distinction of its metalwork.

Mr. Walter Gilbert, whose paper was entitled "Romance in Metalwork," confessed his inability to show any fresh views of the art of metalwork, but he would endeavour to explain a little of that impulse which urged the artist to find expression in those methods and materials with which he felt in most sympathy, and which had the most influence in the development of the art. Primarily it is imagination, or rather the consciousness of imagination—the ruling faculty in all art—which creates art. But real art is something more than this: it is imagination allied with skill and dexterity in the creation of beauty. Beauty is the criterion of all art, the object of all human longing and a source of human enjoyment. It is, but to the most sordid and debased, the great desire and the unfailing source of pleasure, and in such measure as the intellect is trained will that enjoyment be. The perfect work of art is always the result of some emotional mood, and that work is the most perfect which conveys the dream of the artist most successfully and most fully. Treating of the influence at work amongst the metalworkers of the Greeks and Romans, of the Gothic period and the masters of the Renaissance, the author showed that the Greek metalworker or sculptor never sought nor received inspiration from plant forms—nothing of this is found in his art, save perhaps an occasional subordinate sprig of foliage, for the perfect art must always possess the sensual element of beauty to attract and retain attention. If the Roman loved the bay and the vine it was not because of their plant form, but because the bay spoke to him of conquest, and the vine was synonymous with the worship of Bacchus, and all that revelry and riot of the empire which succeeded the severity and serenity of the Consulate years. Studying some of the beautiful little bronzes in the Pierpoint Morgan and other collections in the South Kensington Museum, the author had been amazed at the extent to which the imagination of the great Italian and other masters of the Renaissance had been stirred by the purpose of the objects they had so lovingly and carefully designed. Yet theirs was no original treatment. Just as Petrarch and Ariosto were inspired by the masters of Greek and Roman literature, so the sculptors of the Renaissance were indebted to the Greeks and Romans for their ideals, and the source of origin of many of their creations is not far to seek. The great art of the Renaissance, however, was not the copy of the art of the ancients, but the result of its inspiration. Just as the Renaissance *littérateur* satisfied himself with rhetoric and well-rounded and polished sentences instead of the clear and limpid words of the classic, so the metalworker viewed his imagination through decorative spectacles and mysteries, and from that time onward the greatest artists have been those who have felt most strongly this fascination, and have become the poets of death rather than of majesty in human shape. In the north, however, the dramatic passion, the sublimity of the imagination, the energy and earnestness of purpose and truer sincerity of religion, together raised the ideal from what had been the result of well-polished scholarship—this in itself was the subtle influence of the vigour and robustness of the long Gothic period. Tracing the influence which has inspired later times, the author came to that period in France when the kings dreamt of glory and expansion, and the love of France became manifest in the worship of its kings. Examples of this courtly impulse were afforded by the screens round the forecourt of the palace of Stanislaus at Nancy, and Adam and Girardon's Fountain of Neptune at Versailles. From the worship and adoration of patriotism in the person of their kings it was a small stride in the days of freedom and democracy to deify the republic, its progress and triumph, both in the abstract, as in the masterpieces of Dalou, and in the personages of her most distinguished sons. As illustrations the author cited the gates to the Apollo Gallery in the Louvre, the statues of Delacroix, Danton, and La Fontaine. Under all great art of the metalworker, whether the thing to be done is great or small, there must always be the same working of the intellect, the same poetic feeling for the ideal in story, the same tenderness for material. As for the future, let us not hastily condemn any struggle for new treatment. The achievements of the past are to be learnt from, not slavishly copied. To revive art, scholarship and intellectual training are necessary. It is not debasing art to sell it. What the artist requires is not too arbitrary an assertion on the part of the architect of what is good or bad, for which often an architect, owing to present-day methods of training, is not too well qualified to judge, but a stimulus to thought and energy for the artist—that the architect may gather round him a band of men working eagerly in close co-operation with him for the glorification of his buildings and an enhancement of his fame.

Mr. Geo. Hubbard proposed a vote of thanks to the authors of the three papers.

Mr. Harrison Townsend seconded the motion, which was carried unanimously, and the meeting terminated.

"SUBJECT AND TREATMENT."

In the last of his four addresses on painting, "The Relative Importance of Subject and Treatment," delivered at the Royal Academy, Mr. Clausen, according to the *Morning Post*, laid stress on the importance of perfect accord in a picture between subject and treatment. Such accord was rare except in the greatest works, and in nearly all pictures there were evidences that the artist had leant too much towards one side or the other. The ideal was a controlling impulse affecting both, but the painting—the presentation—was of the first importance, as a picture lived through its technical qualities. For example, in the case of the "Christ in the House of Martha," by Velasquez, in the National Gallery, the real interest lies in the fine painting of the still life, and it was for that alone that the picture lived. Going back to the earlier masters, the Primitives, Mr. Clausen pointed out that their simple-mindedness was the secret of their charm. A young child looked on things much in the way they did, and he compared on the screen a coloured copy of a print made by a child with a picture by Fra Angelico. The Japanese artists, too, saw nature from a standpoint somewhat similar to that of the child, with of course a great difference of accomplishment.

After a passing reference to Ucello's "Battle of Sant' Egidio" in the National Gallery, in which the lecturer said the colour helped to suggest the excitement of the subject, he pointed out the want of accord in Bellini's "Landscape, with the Death of St. Peter, Martyr," because the landscape and the minor figures were painted so well that they detracted from the interest of the principal group. In the same spirit as that of the early men Rossetti conceived and executed his "Annunciation," which, like all his work, was an example of true accord between treatment and subject. The Rossetti was compared with Crivelli's "Annunciation" in the National Gallery, in which the accord was described as lacking. The Crivelli showed fine workmanship, but it was fantastic and wanting in repose. Sometimes, said Mr. Clausen, we heard an artist say that nothing came between him and nature, but that, of course, was impossible, as he was influenced by all the pictures he had seen. Reynolds was quite right when he said that the best road to originality was seeing what had been done by those who went before. However, just now too many pictures were painted under the influence of the later work of Velasquez. They had not the just tones and drawing of the master, and so, after a brief period of surprise at their facility, we ceased to admire them. But there was no facility in the earlier work of Velasquez himself, and there was probably no student who worked more laboriously than he. Speaking of the famous "Venus and Cupid," Mr. Clausen said that there, too, was a want of accord between subject and treatment. Velasquez was not at home in imaginative work, and the Venus was merely a model splendidly painted, and in no way a goddess.

In all imaginative work, continued the lecturer, some departure from realism and some ideal in the artist's mind were necessary. In Botticelli's "Birth of Venus" we did not feel that the figures were models or even mortals at all; they impressed us as being creatures of the artist's fancy. All Botticelli's work had that quality, and the details he introduced enhanced the interest of his pictures instead of detracting from them, as in the case of Crivelli. As an example of perfect accord in every way, Giorgione's "Fête Champêtre" in the Louvre was cited. At the head of the imaginative painters we might place Rembrandt, who painted what he had really imagined in his mind, and after him—at an interval—Watteau, whose pictures gave one an impression of reality in an unreal world. Watteau was always in accord in his treatment and subject. For unimaginative work, showing perfect accord between subject and treatment, Mr. Clausen instanced the pictures of nearly all the Dutch school, of Velasquez, Moroni and perhaps Veronese. Among the Dutch were Ver Meer of Delft and Peter de Hooghe. As there was no fine example of Ver Meer in the National Gallery he would illustrate on the screen one of the Windsor pictures by that master—"The Music Lesson." The representation in that picture was carried to the extreme point in every detail, but it was so just and true that the execution looked broad and easy. They might contrast it with the dexterous touch and "smartness" of Teniers, of which we were always too conscious. The method of Ver Meer was probably a thick under-painting nearly right in tone and colour, and finished by thin paintings. In Peter de Hooghe there was the same apparent ease of execution that distinguished the work of Ver Meer and the same rightness of illumination. There was always a strong dark in the pictures of De Hooghe, whose scale of colour ranged from rich black nearly to white. With Ver Meer and De Hooghe might be classed Steen, Metzu and Terburg, and of these three Steen was perhaps the greatest. In the work of all of them the only impulse seemed to have been to try to record something that looked beautiful. There was no story. After tributes to the art of Frank Hals and Watts, and a reference to Diderot's conversation with Chardin on the difficulties the painter had to face, Mr. Clausen said he must finish with a little personal confession. In his lectures he had bandied about the names of great men as if he had the right to express an opinion on their work. But he had felt all the time that it was presumptuous on his part to criticise even the least of them.

ROYAL COLLEGE OF SCIENCE.

The President of the Board of Education has appointed Professor W. W. Watts, M.A., F.R.S., of Birmingham University, to the professorship of geology at the Royal College of Science, South Kensington, vacant by the retirement of Professor Judd. In view of the changes in organisation that may be found desirable in the Royal College of Science and the Royal School of Mines after the consideration of the report of the departmental committee on the College, it has been thought best to make this appointment a temporary one. Professor Watts was a Fellow of Sidney-Sussex College, Cambridge, from 1888 to 1894, and a member of the Geological Survey from 1891 to 1897. He has acted successively as deputy professor of geology at Leeds, Birmingham and Oxford. At the present time he is assistant professor of geology and professor of geography at the Birmingham University, and is secretary of the Geological Society.

THE SOCIETY OF ARCHITECTS.

In reply to Mr. Belcher's general appeal to the profession for donations towards defraying the expenses of the seventh International Congress of Architects, to be held this year in London, the Society of Architects have handed to Mr. Belcher a cheque for 100*l.* for that purpose, and has also appointed twelve delegates to represent the Society at the Congress.

With a view of improving the competitions open to students of the Society of Architects and of forwarding the cause of architectural education generally, the Council have adopted the following recommendations of the committee appointed to report upon these subjects:—

1. That the Society's silver medal and a travelling studentship of 25*l.* be offered annually for competition among the students of the Society under such conditions as may from time to time be announced.

2. That an open scholarship of 10*l.* per annum, tenable for three years at any architectural school or college, or to be used in furtherance of the holder's architectural education in some other manner approved by the Council, be offered for competition annually under such conditions as may from time to time be announced. The maximum age limit to be nineteen and the holder to be required to register as a student of the Society.

It will be noted that competition for the travelling studentship will be confined to those on the register of students of the Society, but that the scholarship is an open one and is intended to assist those who are just commencing the study of architecture with a view of adopting it as a profession.

The regulations and conditions will be published in due course, and in the meantime those who propose to compete for the travelling studentship would do well to apply for admission to the register of students without delay, so as to qualify for entry immediately the conditions are issued. Particulars may be obtained at the offices of the Society, Staple Inn Buildings, Holborn, W.C.

NOTES AND COMMENTS.

A very remarkable case, by which the necessity of a final certificate by an engineer was upheld, has been decided by Mr. Justice Walton in the King's Bench Division. The action came before his Lordship in Manchester. The plaintiff, Mr. Abram Kellett, sought to recover from the Corporation of Stockport 12,155*l.* for work and materials in connection with a reservoir at Hayfield, Derbyshire. He entered into a contract to perform the work at schedule prices, payment to be made on the certificates of the engineer, Mr. James Mansergh. Plaintiff stated that under Mr. Mansergh's instructions, which were given verbally, he carried out additional work, and for which he was to be paid at different rates to those in the schedule. On Mr. James Mansergh's death, his son, Mr. E. Mansergh, was appointed to the office of engineer, and plaintiff alleged that the Corporation were aware of his being adverse to the claim. There was nothing due to Mr. Kellett on the original contract, and the new engineer said there might be something due in equity for extras, and promised if it were left to him to treat the plaintiff fairly. Mr. Kellett wished that the case should come before an arbitrator, but Mr. Mansergh considered that it was one for his decision as engineer. Mr. Justice Walton decided that a verbal agreement could not be substituted for the written contract. On Tuesday his Lordship further decided that payment was not to be made until the engineer's certificate had been given. As it had not been given there must be judgment for the Corporation. A stay of execution was, however, granted pending an appeal. It is easy to understand how such a difficulty could arise. Mr. Mansergh's word was considered to be as good as a bond, and it was not anticipated that he would pass away so quickly. But what was possible for him in recommending payment was not so easy for his successor. An order in writing became necessary, and without it it was difficult to settle on prices and to grant a certificate.

The annual general meeting of the Royal Society of Antiquaries of Ireland will be held in Dublin on Tuesday next. The annual report states that there is a falling off in the membership. The number on the roll for 1904 was 1,255, at the end of 1905 the number was 1,232. But there was about 100*l.* increase in the fees and subscriptions. In the last annual report of the Council a reference was made to the laws in force for the preservation of ancient monuments, and the action of the Estates Commissioners with reference thereto under the operations of the Irish Land Act, 1903. That body continues to deal with the question in a sympathetic manner, and frequently applies to officers of the Society for information as to the desirability of vesting such structures of antiquarian interest as are situate on estates about to be sold to tenants. Already steps have been taken by the Estates Commissioners for vesting three structures, two in the Board of Works, viz. the Augustinian Abbey at Callan, co. Kilkenny, and Ballyboggan Abbey, co. Meath, and one in the County Council for Kildare. The summer meeting and excursion will probably be held in Killarney.

The Corporation of Edinburgh are desirous to erect new markets and slaughter-house, and last week the question of plans arose. Some members were of opinion that, although elaborate buildings and ornate details were not required, the proposed scheme was so large it would be wiser to have a competition in which architects from all parts of the country could take part. There were several interests to be considered, and what was desirable was to find somebody who could grasp the requirements of all of them. It appears that already money has been spent in preliminary inquiries and sketches. At the meeting the town clerk read a memorial by the Council of the Architectural Association in favour of the principle of competitive plans for important public buildings. This, it was argued, was the more progressive system which had been adopted by many municipalities. The Lord Provost, however, was opposed to competition. He considered that plans could be prepared by Corporation officers, and then they could, if so minded, send a deputation of their architectural members, and perhaps some of the butchers, to see some of the best markets and slaughter-houses in England. That would be cheaper than giving 5 per cent. to an architect on the whole works. On a division twenty-three members sided with the Lord Provost. If the Corporation would send a deputation to examine similar buildings in continental towns they would learn that architects were consulted because it was known that planning was an essential part of their business.

"The Architect's Directory and Specification Index, published by Mr. W. T. Comstock, of New York, should be useful outside the United States and Canada. It is the seventh annual edition, and much care has evidently been exercised in its compilation. The names of the principal officers of the building department in various cities are also given, and there is a specification index of manufacturers and dealers. The facilities for education are also described. American manufacturers are not unknown in England, and the architects in Canada as well as in the States might display occasionally a little reciprocity by ordering British specialties. If England and America are to be the leaders of the human race it would be well to show that in matters relating to building there is a common desire that English goods should be valued as they deserve in American cities. Who knows but Mr. Comstock's Directory may be a help towards that desirable end?

ILLUSTRATIONS.

MINLEY MANOR, FARNBOROUGH, HANTS.

THE Essay Prize of the Royal Institute of British Architects was awarded this year for one on the late George Devey. He was an architect who to a large extent kept aloof from his fellows, and in consequence his name was less frequently mentioned than those of men who did not possess his artistic power, but who had gained and exercised their knowledge of the world. The buildings he loved most were French châteaux, which were suggestive of a relationship to Gothic buildings. We published some years ago views of Minley Manor. But there is such a variety of composition it can be illustrated from a great many points of view with advantage.

DESIGN FOR MITCHELL LIBRARY, GLASGOW.

THIS design, by Mr. H. K. Bromhead, was estimated to cost less than the accepted or premiated ones. It is said that it was set aside, with a number of others, on the curious statement that they could not be enlarged at the back if at any future time that was required.

DEPTFORD TOWN HALL.—COUNCIL CHAMBER.

FITTINGS, ST. PETER'S CHURCH, HORNSEY.

THE eastern portion of this church was consecrated by the Bishop of London last July. The plain panels in the holy table and reredos are intended for painted decoration. The screen occupies the arch between the organ chamber and south aisle. The work has been carried out from the details of Mr. J. Standen Adkins, by Mr. W. Parmenter, of Braintree, the contractor for the general work. The figures of angels on the screen were carved by Mr. N. Hitch, of Vauxhall.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at the premises in Tufton Street, Westminster, Mr. Louis Ambler, vice-president, in the chair.

The following gentlemen were elected as members:—Messrs. G. W. Home, R. Griffin, R. Mountford Piggott, E. P. Cooper, C. H. Rose and E. J. Cartaar. Mr. A. Dickin was reinstated a member.

Mr. F. Lynn Jenkins read a paper entitled

The Consideration of Sculpture by Architects.

When, some months since, I received from the Architectural Association Council an invitation to read a paper to the Association, I at first experienced some difficulty in finding a new and interesting subject. It happened, however, that early last year, as no doubt some of you will remember, a very interesting and lively discussion took place at one of the meetings of the Art Workers' Guild on the subject I have chosen, and I thought I could not do better than select this, and by enlarging on the paper I read then endeavour to use it to the best of my ability. I am not sure that the title is altogether clear in its meaning. Perhaps "How Architects Consider or Deal with Sculpture" would better express the intention I have in my mind.

From the earliest times the master builder, he who conceived the design of a structure to be built, consciously or unconsciously felt that the bare constructive details which utility demanded in the edifice did not wholly satisfy him. The desire innate in man for some peculiar or personal significance in his house led him to carve on the doorpost or some similar coign of vantage a sign symbolic of his name, his craft, his character, or his position. Later, these hieroglyphics became more pretentious, and as civilisation advanced and the cult of hero-worship grew in force man began to memorialise his dead and to build sarcophagi, on which he sculptured a history of the deeds and virtues of the departed. Religion also brought its necessities of altars and temples, and its presentments of the deity worshipped. In studying the history of the earliest ages of civilised mankind we seldom, if ever, find the art of sculpture employed without a direct and useful purpose, the isolated statue, unless it portrayed a hero or an idol to be worshipped, being practically unknown, so that we may infer that sculptured figure or symbolic ornament, whether carved in wood or stone, marble or granite, or cast in metal, was designed and executed solely to convey an intention which could not be well expressed by any other means.

It was not until a later age, when cultured simplicity gave place to the luxury and extravagance of super-civilisation, when pompous vulgarity superseded refined taste, that man commenced to lavish ornament devoid of any real significance on his buildings. I do not propose to illustrate this fact by reference to individual works throughout the ages; I think it will be sufficiently obvious that the argument is proven by history that, whereas in the beginning sculpture was used solely for an end which rendered it a necessity, in later times it degenerated into being, broadly speaking, a means of ostentatious display of wealth and exuberant luxury, and ceased to be an integral part of the *raison d'être* of the building it adorned. In stating this I do not overlook the gradual development of the natural instinct to make the "house beautiful," nor do I aver that ornamentation may not be equally necessary in designing from the æsthetic point of view; the fact remains that a time came when the demands of beauty claimed equal, and afterwards greater, rank than those of pure utility, and that whereas in the latter case the artist was limited within set bounds, in the former the restrictions were less apparent, depending, as they did, on the individual taste of the designer.

Hence we may take the architecture of the Egyptians as one example of a period when sculpture was used solely because it was the only means the builder had of expressing his full intention, and, on the other hand, that of the Greeks as illustrative of the perfect, restrained and refined consummation of the aims of the utilitarian as well as the lover of beauty and style.

There was another difference noticeable from the moment when the cult of beauty entered largely into the consideration of the architect, for whereas in the structures of the earlier designers that elusive quality we call "style" was shown in a very marked degree, it was the unconscious emanation of the character of each particular age and people, while the Greeks, with their newer ideals, aimed at and actually achieved the creation of not one but several complete conventional orders of architecture, each replete with style, each with its corresponding detail of ornamentation, each in harmony with the requirements of its time, both æsthetic and practical, finer than which nothing has since been attained to. The architecture of that age without doubt most nearly approached human perfection in its rich simplicity, won by the wedding together of the highest ideals of beauty and practical utility.

From that culminating point onwards in the history of architecture and sculpture the downward grade began, in some measure because of the very perfection of these ideals materialised for man's emulation. After every exposition of genius there is always reaction, always a host of imitators who strive to reach the same or even a higher goal of perfection without ever probing for the great secret which underlies the perfect success, and which is the mainspring of the achievement. Seizing on whatever superficial characteristic marks the work of genius from others, they endow this apparent difference with miraculous virtue, and, imagining that therein lies the straight road to the desired end, seize on this peculiarity, enlarging on it and carrying it beyond all bounds of restraint in their illogical efforts. It has ever been thus in the history of art, whether sculpture, painting, architecture, literature or music. So, because the Greeks introduced a new note into their wonderful architecture by the use of sculptured decorative ornament conceived in the finest spirit of logical practicability, introduced not merely for the sake of utility, but because they achieved the grand secret of making utility and beauty coincide, in the ages that followed men strove to emulate their genius by attaching undue importance to this one note in the perfect chord of Greek art, and played that note loudly, with many octaves, remorselessly endeavouring to make it the dominant of other chords in lower keys. Sculpture and ornament were applied lavishly with no logical reason as regards utility of purpose, with no cultured simplicity of style, and with little or no individuality or fitness. It is true that the Renaissance for a time stimulated a noble order of things, that while it lasted a glimpse of the vital secret of the Greeks enabled the artists of that period to attain to a high standard of beauty in which we find purity of motive, marked individuality and yet another fresh characteristic. For while the Greeks achieved an almost godlike perfection, it was a Pagan, superhumanly cold perfection, while the artists of the Renaissance, though attaining to a lower standard of success, infused a larger proportion of human nature into their productions, a sympathy with mankind born of the warmer culture of a romantic and passionate people. For this reason when the inevitable reaction again occurred the art did not sink so low, because men were striving with ideals they better understood, in which the human element responded and beckoned them on.

Another factor had also risen in Western Europe, which reached its richest, if not its purest, expression coincidently with the Renaissance. I refer to the Gothic movement, that great style in which Christian men found outward expression for the religious fervour which possessed their souls, and which at its best conformed to the same ideals as the architecture of the Greeks. For my argument, however, I introduce it merely because of the influence it had on the work of the Renaissance, for there can be little doubt that a greater proportion of the human element instilled into the Renaissance architecture owed its origin to Gothic influence.

Since the date of the Renaissance there have been many notable architectural achievements, particularly in France and this country, periods when sculpture has played a logical and consistent rôle in conformity with the architecture it embellishes. Still there has been no great movement to mark an epoch, and until the last few years no effort has apparently been made to evolve a style bearing the vital expression of its own time.

I have the profoundest admiration for the sublime performances of the great masters of Greek and Roman architecture, for their genius and culture. I do not argue that another Doric, Ionic or similar order may be lightly evolved, but, nevertheless, I strongly feel that, insomuch as they were the creations of minds trained to perfection in practicability, beauty of line, proportion, mass and silhouette, and, above all, in exquisite detail, there is no reason why the architect of to-day should not from his own inner consciousness, his culture and set aim produce buildings inspired by the requirements of his own day which would at least be thorough throughout, with individuality and characteristic style in the smallest detail.

When we remember that it is a simple matter for any architectural student to determine the style and date of a Mediæval Gothic building merely from a glance at the ornament on it, it seems an anomaly that to-day, when a new style consistent with the spirit of our time is being surely, if slowly, evolved by some of our ablest architects, a style marked by strong individual characteristics in general, there has been little or no attempt at the evolution of a fresh and fitting style of ornament to embellish such buildings, and we find twentieth-century architecture ornamented with a parboiled *réchauffé* of classical Renaissance or Jacobean detail. I have often thought that one of the chief reasons why the sculpture and ornament of the Greeks and Romans, of the Renaissance and of the Gothic buildings were so perfectly in accord with the architecture was because the architects were the sculptors and the sculptors the architects. Nowadays, unfortunately, we are specialists, and, as a rule, the architect knows little of the practical side of sculpture and the sculptor even less still of that of architecture.

This is, however, an age when there are many thoughtful, enthusiastic and inventive sculptors who would gladly assist in the development of a characteristic and personal style of ornament if architects could but express what they themselves really wanted. So long as ornament is handed over to business firms of architectural carvers, with their private museums of stock casts as their sole inspiration, not to get new ideas from, but from which to select and arrange, just so long will the neglect of this important part of the detail of many an otherwise good building appear to the historian of our time to have been unwarrantable and inexplicable in architects showing otherwise so much individuality, forethought and enthusiasm.

The over-familiar "egg-and-tongue," "bead-and-reel," and similar detail are perfect when properly applied; still, it must surely be possible to devise new ornamental members having all the degrees of light and shade which they possess, and yet with a more personal *motif* suitable to the modern building.

Some sculptors have felt the want of individuality in carved detail so much that they have for their special requirements evolved their own ornament. Amongst these Alfred Gilbert, R.A., and George Frampton, R.A., are notable instances. But while such ornament as modern sculptors have produced may be excellent in its conjunction with the rest of the sculptor's design, it was frankly for the personal requirements of the artists, and I mention it but to show that architects have not sufficiently exploited the latent ability of their brother artists the sculptors to strike with them that complete chord of harmony and refinement which is comparatively rare in the details of the architecture of the present day.

One of the most notable features of the wonderful perfection of the Greek masterpieces, a fact that must have forced itself upon all who have closely studied them, is that it would not be possible to omit any minute part of the sculptured or ornamental detail without marring the perfection of the whole, and, *vice versâ*, nothing could be added without procuring a similar result.

There can be no doubt that the Greeks considered the close study of the human figure above all else, making not merely drawings or models from life, but analysing the reasons which make it the most perfect design on earth, embuing themselves with the essential theory of its wonderfully constructed form rather than examining the anatomical structure. Hence they attained a thorough knowledge of the laws which govern the making of a practical and exquisitely beautiful creation by means of critical and analytical observation of nature in its most ideal forms.

Goethe wrote :—"So much is certain; the old artists had as complete a knowledge of nature and as definite an idea of what can be represented and how it must be represented as Homer had. These great works of art were at the same time supreme works of nature, produced by men according to just and natural laws. All that is arbitrary or fantastic falls away; here is necessity; here is God." And, again :—"If the artist, by imitating nature, by striving to find a universal expression for it, by exact and profound study of the objects themselves, finally attains to an exact and ever exacter knowledge of the qualities of things and the mode of their existence, so that he surveys the whole series of forms and can range together and imitate the various characteristic shapes, then what he achieves, if he achieves his utmost, and what, if achieved, sets his work on a level with the highest efforts of man, is style."

It was this gigantic understanding of nature which endowed their great sculpture with a God-like impersonal ideality, and which when brought to bear on their architectural undertakings rendered them equally perfect in their sublime beauty and practicability.

I believe they regarded the human figure in its most ideal form as the type governing all rules of design. They realised to the fullest extent that it could in no possible way be improved by alteration, either by addition or subtraction; they knew by heart its subtle constructive values; they studied the disposition of its details as opposed to its broad, simple masses; they understood the exquisite beauty of its proportions and its unapproachable harmony of line and silhouette viewed from any aspect; they felt the value of its wonderful variety of planes, its "local colour," and, above all, its marvellous unity and simplicity; and, with this set ideal well rooted in their minds, they strove and succeeded with consummate skill in blending these conditions into their masterpieces of architecture. I fully appreciate that modern conditions are altogether different, that the curriculum of study of an architectural student of to-day must of necessity cover a wider ground than of old, leaving little time for the practical study of the sister arts; but I feel sure that if students were given opportunities to draw and model from life to a much greater extent than they do, and were logically trained to regard this particular study as a means to a definite end in somewhat the same manner as the Greeks must have, then we should soon find an appreciable advance made towards the higher ideals of artistic architecture.

Students in architecture spend considerable time wading through a long course of study of the "orders," a course corresponding to the drawing and modelling by painting and sculpture students from the antique. I am convinced that not one in a thousand painting or sculpture students has any real comprehensive appreciation of the nobility, style and ideal beauty of the wonderful masterpieces of Greek sculpture which they copy so laboriously, so blindly and so mechanically. Such appreciation and understanding only begins to come long after they have passed through their apprenticeship to the art they practise. I fancy that the same remarks apply to the study of the "orders" by architectural students. In the case of the architects, they have not even the same chance of understanding the masterpieces they are copying as the sculptor or painter, who model or draw from a complete or sufficiently complete work, while the architectural students spend many a wearisome hour endeavouring to learn by heart the proportions and details of one column, a piece of architrave and a portion of cornice, considered without relation to the whole design of which they form but a part. I doubt if 1 per cent. of the students who yearly make such exhaustive study of the "orders" ever take the trouble to make a complete scale drawing of the entire elevation of which the column, architrave and cornice are but details. How, then, can they possibly train themselves by such means to analyse and appreciate the great principles which guided the Greeks in designing these masterpieces?

And now in what follows, if it should appear that I am unduly critical in my remarks, I would beg you to allow me the privilege of speaking less as an individual than as a logician who would carry his point with all the wordy insistence at his command.

It would generally be supposed that of all men the architect should be best equipped to understand and appreciate the art of sculpture, for he is trained to consider masses, to judge form from its plans, elevations and sections, to realise the value of line and silhouette and proportion, and the contiguity of happily-disposed planes of light and shade. Yet, in spite of this, we continually hear of architects surprised at the effect of light and shadow caused by sculpture applied to their façades, even though designed to their own instructions and after their approval of the sculptor's scale models. Again, architects are apt to consider sculpture as an afterthought, to be added to the design if funds permit, or omitted if not. The average architect does not regard sculpture as an integral part of his conception from the very outset, the omission of which would inevitably mar the entire design, which would be equally impaired by any afterthought or addition. I have not studied architecture to any practical extent, but it seems to me that in conceiving his design for a building the architect to be successful must from the start have two definite ends in view—the planning of a practical scheme and the making, as far as lies in his power, of a beautiful shell to contain this scheme. If this is the case, then I cannot understand the attitude of so many architects of to-day in regard to the introduction of sculpture. Either it must be deliberately accounted for as a concrete part of the design, or it must be dismissed for ever, and no matter what funds should later accrue to provide for sculpture, its inclusion is rendered impossible by reason of the already complete nature of the design. I have perhaps unduly insisted on this point, because I firmly believe that its mature consideration will do much to improve the existing condition of architectural sculpture.

There is also a tendency to be too closely bound by tradition in the application of sculpture or ornament to just those parts of a façade which have usually been so filled. Possibly custom has labelled as a general rule the most fitting parts to be decorated, but it does not necessarily follow that under new individual conditions they should still be the most appropriate. Another fault is common, namely, the over-lavish distribution of small frittering ornamental detail, which sometimes completely destroys the simple dignity of an otherwise good architectural design. It would have been far better in some cases if ornament had been altogether omitted, or at most massed at one or two essential points. Such buildings remind one of men whose bodies are tattooed all over with designs having no relation whatever to the form thus masked. One may admire the fine detail and workmanship of the tattooed design and yet heartily wish it were not there.

The proper use of sculptured relief has always been one of the most difficult problems both to architects and sculptors, and I fear that too little attention is often paid to the matter of projection in relief when applied to architecture. One sees buildings where, although satisfactory as regards scale, pattern and style, the reliefs do not seem to wholly enter into the spirit of the scheme, and it is not until one has carefully sought the reason of this that one arrives at the definite conclusion that the projection is the cause of the trouble. Either it is too high and the local colour is too marked or the case is reversed, with corresponding damage to the unity of the architect's conception. It must be borne in mind that there are two methods of obtaining strong values in relief. One is by having a high projection and making the sections rather round; the same effect can also be procured with much less actual projection by treating the planes very simply and making the edges sharp and square. It is therefore of importance for the architect to decide and instruct the sculptor as to which method he considers most appropriate to his design if he wishes to insure complete unity of feeling throughout.

I am not one of those who, dissatisfied with the conglomerate mixture of styles prevalent to-day, advocate entire rejection of all existing schools of architectural expression and a return to the primitive modes of thought and a bland, childlike innocence of aught but natural law. I do not believe that this deliberate intention to gain originality can result in anything but eccentricity, because it is not, as is pretended, the outcome of a natural train of thought, but in reality that of affectation. I see no reason to reject any of the useful store of knowledge to be gained by study of the finest examples of all ages. At the same time, I do firmly believe that one of the surest methods of creating a purer and more forcible expression of the individuality of our time will be found by the acquisition of such culture concurrently with a more complete familiarity with nature's own laws of beauty. This latter I contend to be the core of the whole matter.

A great deal has been written and there has been endless discussion on the subject of collaboration between architects and sculptors. For my own part, I fail to see how it is possible, under existing circumstances, for true collaboration to occur, and although in a few isolated instances a great measure of success has been attained, it has, I believe, been more the result of accident than otherwise. Before collaboration can be thorough there must be a common ground of mutual understanding between the sculptor and architect, which certainly does not exist at present. As I have said before, there are very few architects practised in the craft of the sculptor, and fewer sculptors are there who can by looking at plans, elevations and sections realise to any extent the entire conception in the architect's mind. How, then, under such haphazard conditions can the two minds hope to work to one accord? Is it any wonder that, for want of practical knowledge, the architect does not fully realise the intention of the sculptor's sketch models, or, on the other hand, that the sculptor is hampered by uncertainty as to whether he is really in sympathy with the architect's conception, and thereby prevented from working with the sincerity and directness of purpose which must inspire all true artistic endeavour? If by practical means some common ground of mutual understanding can be found and adopted, then I am convinced that true collaboration, necessary in an age when artists are specialists, will become an accomplished fact, and with its practical and successful working will cease the fruitless discussion which usually ensues when the word "collaboration" is mentioned.

I venture to lay before you what I consider may be the means of providing this "common ground of mutual understanding" whereon the architect and the sculptor may start to build their ideals in unison, each with perfect freedom of sympathetic action. I refer to the use of scale models of their buildings by architects. I am convinced that in all serious undertakings where sculpture is to be employed as a part of the architectural scheme success will in the end be more surely attained by the architect's careful consideration at an early stage of the designing of a scale model of his conception. In this model he should express his intention as to the general planes and masses, the proportionate depths and projections of mouldings and reveals, and he himself must decide by means of suggestive bits of clay exactly the disposition, pattern and projection, silhouette and mass of the parts he wishes the sculptor to enrich. Then, when he has finally brought the model to the point when it realises to the best of his power the full expression of his conception, he can safely call in the sculptor whom he feels most in sympathy with the particular style of the project in hand. I venture to say that the sculptor he selects, if he has any artistic imagination, will from the outset enter into the spirit of that undertaking with a mind attuned to the key of the architect's inspiration in such a manner as he never does at present. He will see shapes which he can understand, and which at once will inspire him with suggestions of beautiful detail which may be evolved therefrom. He will be in his natural element, an element in which plans, sections and elevations play but an imperfect part, and, best of all, he will be able to realise from the commencement the most fitting treatment of each particular detail in relation to the whole structure.

Herein, I contend, lies the chance of great success for both architect and sculptor—success for the sculptor because he will have a chance to do really decorative and monumental sculpture, and success for the architect for two reasons: firstly, because he will no longer be worried by uncertainty as to what his brother artist is going to give him or how the work will look when completed; and, secondly, because when he sees before him the model of his proposed building he will be less likely to be conventional, he will infuse more of his own individuality into the minutest detail, and there will be less likelihood that in an absent-minded way he will label every other member "egg-and-tongue," "bead-and-reel" and so forth. I also believe that the adoption of scale models such as I have described would exercise a great educational influence on both artists. The sculptor would gain by the practical consideration of architecture in a medium that he can understand and by a fuller realisation of the needs inspired by the conception of the architect, while, on the other hand, there would be a tendency for architecture to become simpler and more monumental, and the architect by means of his practical study of form giving broken light and shade would widen the already large field of his knowledge and gain fresh power.

I have often thought it would be an excellent idea if students in sculpture and in architecture were taught side by side in classes, where the decoration of architecture with sculpture should be the subject for special consideration. Architectural models should be made by the joint efforts of one sculptor and one architect, in the designing, modelling and decorating of which both students would become intimate with the principal laws governing each branch of the art.

Such training would, I believe, bear so rich a harvest of practical result that it would soon become a definite part of the curriculum in the education of architects and sculptors. I would like to see the experiment made by enthusiastic students under sympathetic and appreciative guidance.

There are several small sketch clubs where young practising artists, sculptors, painters and architects periodically meet together at each other's studios to practise drawing from the living model. The idea is an excellent one, serving as it does the twofold purposes of useful study and the creating of a bond of fellowship between the votaries of each different craft. I am sure there are many young sculptors and architects of equal professional rank who would gladly welcome the formation of similar clubs where the particular study of decorative sculpture applied to architecture might be practically considered by means of sketch scale models. Such clubs or classes should for useful purposes be limited in membership; possibly two of each craft would be found to be sufficient. The procedure might be as follows:—Having at the outset mutually agreed upon a particular type of building giving fair scope for the joint study, the architects would evolve the plans and elevations sufficiently for the object in hand, explaining the scheme and their method of dealing with it for the benefit of the sculptors. Then, selecting such portions as would best serve the purpose, they would all proceed to the making of a clay or plaster model or models, and in this process the practical experience of the sculptors in handling plastic material should prove of value to the architects. I would, however, suggest, in order that the fullest benefit should accrue from the study, that the architects should be considered the controlling spirit of the design as regards the disposition, line, mass and projection of the sculpture or ornament on the façades under construction. The next step would be for the sculptors to evolve from the lumps of clay suggesting merely the desired values of broken light and shade sculpture or ornamental detail which should accentuate the intention of the architects, at the same time by choice of subject giving full expression to the *raison d'être* of the building. The study might with advantage to all be carried further by the enlargement of these details to a working scale, with practical reference to nature by the use of the living model, and, as every process would take place in the presence of all, it could but result in a better understanding of the bed-rock principles governing each other's art, elucidated by practical means in a sympathetic way throughout the joint undertaking. I believe that this form of study would do more for the advancement of art than any number of lectures to sculptors on architecture or to architects on sculpture.

Let there be a practical and sympathetic understanding of sculpture by architects, a closer and more analytical study of the laws of beauty and nature; let the individuality of our many clever architects have full play in the thorough consideration of the smallest detail; let sculpture be introduced on buildings only to serve a definite purpose, both æsthetic and practical fitness, and at once we shall see the logical result in the growth of a school of architecture embued with style inspired by the spirit of our own age.

Mr. Stirling Lee, in proposing a vote of thanks to the author, said the paper was a practical one and full of suggestion. It started very thoroughly from the beginning of things, and they had been told that the idea of sculpture commenced when man desired to ornament his building. The results of this ornamentation had been traced through the ages until later times, when it was seen that the sculpture had almost ceased to be a part of the building it adorned. He thought that, speaking generally, it would be felt that much of the ornamentation of the present day lacked that earlier appropriateness. It was difficult, however, to say how far the sculptor was in fault, since he found it often hard to realise the architect's conception. The first point to grasp quite clearly in the collaboration of the architect and sculptor was what part of the scheme the sculpture had allotted to it. In earlier examples the old men aimed at some definite idea, and their work carried out that intention. That the sculpture when introduced should be part of the scheme architects would agree, and yet it was often noticeable that a building with ornamentation would be æsthetically far finer without it. Then there was need to avoid meretricious work, and, speaking from the sculptor's point of view, he said it was better to see a fine space of masonry than cheap ornament. It was important to notice how ornament had grown in the development of every style, for it was a mistake to believe that certain kinds of sculpture were in harmony with all styles of architecture. The ornamentation must necessarily be the outcome of the general scheme, and it was for such a purpose that collaboration in the two arts was needed. So long as academic principles were separated from the practical the architect and sculptor could not work together. The two must have the same vision, and the point could not be enforced too strongly. They must remember, he said, the clay model had limitations, and that stonework called for different treatment. Sculpture on buildings, therefore, was often the stone copy of a clay model. In conclusion he advised sculptors to work from drawings in architectural collaboration, and to consider their designs *in situ.*

Mr. H. H. Statham, who seconded the vote of thanks, referred to the remarks of Mr. Lee, because he thought that an interesting point had been made as to sculpture on buildings not being masonry sculpture, but a reproduction of clay modelling. How was the difficulty to be avoided? Would Mr. Lee like, supposing he had to carve a frieze on a building, to try the experiment of what Michel Angelo did, by going direct to the stone and cutting the sculpture without any previous modelling? A man would require to be certain of what he was going to do, and it might have the result of producing the masonry style of sculpture which Mr. Lee rightly wished to secure. In considering sculpture in relation to buildings it had to be remembered that there were two possible points of view, *i.e.* whether the sculpture was to appear as put in a frame or whether it was part of the building. They might have both. He should say that the sculptures in the Parthenon pediment were sculptures framed within the pediment, free from the building; but the frieze was sculpture forming part of the masonry. The two kinds of sculpture required to be treated differently. He could not be so optimistic as Mr. Jenkins about the new style. He (the speaker) did not see it himself, and he did not think we could ever expect to see a national style of architecture grow up as had been possible in the past. The reason was that we had so much before us, and the wider knowledge of earlier work brought to our minds by travel and photography, &c., produced sentiment that was more than national. Those facts could not be overlooked, and for that reason they could not evolve a new style. It was said in the paper that one of the surest methods of evolving a purer and more forcible expression of the individuality of our time would be found by the acquisition of culture concurrently with a more complete familiarity with nature's own laws of beauty. From that it was to be supposed that Mr. Jenkins knew what nature's own laws of beauty were. He himself did not know those laws, nor had he ever met anyone who did. Sculpture, perhaps, and architecture certainly, had not much to do with nature, which was at most only at the foundation of them. Referring to collaboration, he said when an architect wished to have sculpture on a building it was essential that at the outset he should have some idea of what he wanted the sculpture to do, for it was a poor method to leave certain places for ornament and then go to the sculptor. An architect should have some scheme in his mind as to what the sculpture should express, and in what part of the building it should be placed. The question of position was important, especially in view of the fact that sculpture and architecture seemed to have opposite demands. Architecturally, it was most effective to put the sculpture at the top of a building, as the Greeks did with the Parthenon frieze, which they regarded as an architectural band of ornament, for they put it where it could hardly be seen, and only by reflected light from below. But if sculpture was to be seen and understood intelligently, it must be near the base of the building. Those points had to be considered. Did they want an architectural ornament with some meaning in it when they looked closer at it, or something to be studied close at hand? The speaker agreed with Mr. Jenkins in what he said as to the enormous advantage of having scale models of buildings. The practice need not be followed in the case of small commissions, but where they had to do with important buildings, and more particularly where sculpture was to be combined with architecture, it was most desirable to produce a model in order to secure the best result ultimately.

Mr. H. Stannus said he could not help feeling, in spite of what had been mentioned in the paper, that lectures had some little value on subjects of the kind they had been treated to by Mr. Jenkins. Although lectures had been condemned in the paper, and it was suggested that students would get on better without them, yet the fact that Mr. Jenkins had read an interesting paper was the happiest refutation to the suggestion. The speaker agreed there was great need for sympathy between architects and sculptors, though he believed the architects were prepared to collaborate with their brother artists. It seemed, however, as if the sculptor stood aloof, because looking at many of the monuments erected in London, it would be found that only in a few instances had the advice of the architect been sought. In France there was that collaboration, and the public monuments consequently were of a higher artistic value than our own. He could not help thinking that the author of the paper had in reality been giving his opinion on the architecture of twenty or thirty years ago. The tone of the paper was a little pessimistic, but the speaker ventured to think the architecture of the present day would bear comparison with work that had preceded it, and, in fact, that it would take a very much higher stand than much of the architecture erected in the past.

Mr. H. T. HARE, in alluding to the question of collaboration between architect and sculptor, said it seemed to him that a great deal of the blame for the lack of sympathy rested more with the sculptor than with the architect. In England the two arts were divorced from each other, and sculpture had become more or less gallery or studio work. One had only to look round London to realise how the sculptured monuments failed in their architectural accessories, and the fault was with the sculptors themselves. He noticed in the paper a craving after a new style. He thought this was quite hopeless, and he did not think they wanted a new style. What they wanted was a development of the old styles; in fact, progress in their art ought not to be a question of style at all. Anything new as a rule was bad, and all the new fashions that had arisen were simply peculiar to a period, for they had all died out and were not remembered. The only architectural works of interesting value in London were the buildings which had been designed on traditional lines.

Mr. M. GARBUTT supported the vote of thanks, and after some remarks from the Chairman, Mr. JENKINS briefly replied, and the meeting terminated.

STONE DECAY IN GLASGOW.

IN a letter to the *Glasgow Herald* Mr. J. Wilson Dougal writes:—

Viewfield, Linlithgow: January 15, 1906.

Sir,—I observe that some recent correspondents, writing to your columns on stone decay, are still debating whether sulphuric acid is chief and sole offender in the decay of stone.

It is about fifteen months since an important and interesting article appeared in the *Herald*, giving particulars as to the ravages of sulphuric acid. In response to this article I ventured to point out that, while the action of sulphuric acid, either free or combined as sulphates, is undoubted, the decaying power of carbonic acid, though not so virulent, is more extensive in area because of its wider distribution in the atmosphere.

Sulphuric acid is more localised in the atmospheres of industrial centres and of large towns, where coal and coke are used as fuel; while carbonic acid exists in almost uniform proportion of .04 parts per cent. of the constituents of the atmosphere, equally over moorland or in crowded cities. In cities, we must remember that while sulphuric acid is issuing from every furnace and household fire, larger proportions of carbonic acid are at the same time let loose into the air, without taking into account, further, that every living creature exhales carbonic acid in each breath.

Carbonic acid is very soluble in rain water, and is thus conveyed into the stone, which retains moisture with strong capillary force. So we have sulphuric acid and carbonic acid jointly at work in town areas, while carbonic acid is largely predominant in country districts.

However, if these two acids are "les bête noires" of the builder, we must note that carbonic acid is a very necessary thing for success to the farmer—to disintegrate and dissolve out the precious elements in the stony detritus of the soil which are so necessary for his crops.

This fact shows the ubiquity of carbonic acid, and its action, though slow, is always going on where felspars and other rocks of alkaline character exist. It acts more quickly on the lime and iron bodies which bind the grains of sand in building stone. It is useless to contend that only one of these is to be blamed for stone decay.

My chief purpose in writing this letter to you is not to give the preceding recapitulation of these well-known actions, but, with your leave, to point out other causes of decay, perhaps less prominent, but still persistent and destructive; and as a reference has been made in your columns, in recent letters, to what are called "white powders" or efflorescences on walls we may show that there are several kinds of efflorescences. We find on brick made from clays adjacent to the sea, or ancient sea beds, salt efflorescences, which appear in dry weather and disappear into the brick in damp weather—these walls are usually damp and thus unhealthy, and encourage fungoidal growths. Sulphate of lime, another white powder, may be seen on stone walls, but it is not so damaging as sulphate of magnesia, which often shows like frost. Where it exists it is a very destructive agent, especially on sandstones. Many builders and architects are not aware of the fact that many cements contain magnesium sulphate. Masons speak of it as the "acid of the cement." The sulphate of magnesia in cement, though only in small percentages in these cements, is very soluble and is borne out from the cement, on which the stone is set, by the exuding water from the wet cement. It appears in a few days, especially in dry weather, as a frost or efflorescence for some inches all round the edge of the exposed stone face. Architects and builders seem to be unwitting as to the damage done, because these cements are largely used in building up the fronts of some of the largest and finest buildings. Thus, often a stone is blamed for the mischief which the sulphate of magnesia does, and resulting in handsomely carved stones showing pitted marks or smooth face of stones destroyed and initial decay begun in a few weeks after building, independently of the action of the usual atmospheric decaying agents. Another efflorescence is calcium nitrate, of a more complex formation, having a more limited range of action. This substance may recall to your readers the practice of the ancient "petremen," who used to hunt, in the garbage of houses, in olden times for this white powder, which was required for the manufacture of gunpowder.

Again, we have films, of different colours, of impure carbonate of lime on walls, or hanging as miniature stalactites, under decaying stone, where usually the wasting is going on very badly.

All builders know how fast some stones decay in towns or mansions built near sea atmospheres, in which is found salt that has been driven landward in fine spray by the wind.

As well as these material agents of destruction, we must not forget the minute forms of plant life, mosses, algae, lichens and bacteria which have their share in destroying stone. They find food in the lime and iron compounds in sandstone, also from ammonia, salts and other air constituents. Bacteria teem in millions on the stone-face, and, like the other forms of plant-life referred to, make use of that provision of nature—the power of exuding secretions, which dissolve the lime and iron binding material round the grains of sand. The mischief done by these may be infinitely small or great according to the nature of the stone.

None of these decaying actions on stone by the various agents mentioned can take place without the presence of water. Thus damp is the common factor of all these reactions, which go on in a ratio equivalent to the amount of moisture. Builders know that most decay takes place under projections of stone, balustrading, &c., where most moisture is retained, because it is not so wind swept, and therefore damper than the flatter surfaces of buildings. We must, of course, not overlook the physical causes of stone disintegration: thus, wind drives off loosened surface-grains, exposing new surfaces; expansion and contraction of buildings in hot and cold weather. More important is the action of frost and thaw, which expands with irresistible force the water contained in stone. In this way weak spots and seams in the stone are thoroughly searched, and specially the lines of stratification yield a quick return in decay.

In considering this question of decay we find great differences, due to the inherent strengths of stones, the original pressure at the time of the stone's formation, the character of the stone constituents, the binding material, whether silicious, lime, iron or magnesia compounds.

These remarks apply more to sandstones than to the dolomitic building stones, which are used more in England than in Scotland.

We hear sometimes of the importance of "seasoning" stone, and though it may seem a paradox the explanation is probably found in a reaction of one of the processes of decay already spoken of. As, however, I have taken up so much of your valuable space this matter must be deferred.

It may be generally stated that the quality of a stone, to withstand decay, depends on many things, but one point is sure, that, other things being equal (as strength of coherence of the stone particles, &c.), the more carbonate of lime or other binders than silica the stone contains the more readily will it decay in damp atmospheres in towns or country districts. Then, with all these forms of decay, are we to perplex the builder, who naturally asks how may it be prevented? In answer to this, it may be said that elaborate and extensive tests were made a number of years ago, under the supervision of prominent builders and architects in various parts of Scotland, and it has been found that thoroughly successful results may be had. The special preparation used penetrates the stone and makes a waterproof stone skin, thus preventing the entrance of deleterious substances into the stone.

Since penning the above I have seen the letter on stone decay in your issue of Saturday, and beg to say that the aforementioned preparation is manufactured in Scotland, and has been advertised in your columns.

MODERN ART.

The members of the Birkenhead Art Club held an open meeting on the 18th inst. under the presidency of Dr. Harrington, when Mr. George Hall Neale, president of the Liverpool Academy of Arts, read a paper on "Modern Art." According to the *Liverpool Courier* he said when they considered the part art took in everyday life it was strange how seldom it came prominently to the front in any community or gathering such as that. In the huge centre of active life on either side of the Mersey, where churches, hospitals, schools and all kinds of intellectual institutions abound, their active art life was principally expressed by a few concerts at the Philharmonic Hall and by the autumn exhibition of pictures at the Walker Art Gallery. If they took the average young man, it was the great exception to find one with any feeling whatever for any of the arts. "I would like," continued Mr. Neale, "to speak about art in its particular relation to this part of the country where we live. In spite of the indifference of the average young man and the want of interest generally, I am sure that things are improving and will continue to improve. If we take architecture, which is claimed by some to be the mother of the arts, every one will admit the vast improvements that have taken place in this neighbourhood in all classes of buildings. I will mention two examples of improvements which have taken place in the last few years. There are now few more picturesque streets to be found in the country than Dale Street, looking from the town hall towards the Royal Insurance buildings. On this side of the river you have the beautiful cottages of Port Sunlight, which only need the touch of Time's softening fingers to make them beautiful. These are isolated instances of what is taking place everywhere, and I believe it is the principal sign of the general growth of æsthetic culture. Speaking as one of the local artists, it is difficult to form an unprejudiced opinion and to say whether the art produced in our midst compares favourably with the work done by the Liverpool painters of the past. The conditions now are entirely different. In the flourishing days of the Liverpool Academy the local artists formed a real school of painting. They had their individual styles, but they were influenced by the same peculiar ideals, and all associated more or less with each other. As sincere and true artists they deserve all the respect in which they are now held. The Liverpool Academy represented painting in our midst. The exhibitions were brought together by the members, and in the selection and choice of the pictures hung the local artists formed the ideals that made them a distinct and individual body. At that time the men who are now known as the old Liverpool school were a long way ahead of the public. The courage with which they acted up to their convictions, and what they considered the right principles of art, lost for them, however, the support that the Liverpool Corporation gave, created a split in their own body, and their exhibitions came to an end. Most people think that the breakdown of the Liverpool Academy exhibitions was the most unfortunate and disastrous thing that could happen to the artists of Liverpool, as it educated and helped to make the local artists. The Academy was the natural expression of the art of the community, and when its exhibitions ceased in 1867 the conditions that had given birth to a distinct and individual school came to an end. With the commencement of the Corporation exhibitions the art of Liverpool became merged more or less in the art of the whole country. From the point of view of Liverpool itself it was the difference between furnishing and decorating your own house and getting a firm of London decorators to do it for you. The principal art event of the year in Liverpool is the autumn exhibition at the Walker Art Gallery, and now this, instead of being managed by the section of the community most interested, is organised by a committee of the Liverpool City Council. The Liverpool Academy still has a show of its own, but as an exhibition it is naturally quite overshadowed and in the background. The position of the Liverpool Academy and local art at the present time is perhaps most interesting to those who, like the members of this club, associate with the local professional artists. I am very diffident in giving my opinion on the subject. It is impossible, I suppose, to realise in its true proportions the work of the men and women whom we know personally, and in many cases intimately. Perhaps one may put it generally by saying that the changed conditions I have referred to have made the art here more or less typical of the art of the whole country. But, although the work of the local painters is merged in British art generally, and we all aim at individual distinction in the London exhibitions, still the works that are produced have certain peculiarities. The majority of the local artists are individuals, and each one works out his ideas of art in his own particular way. I will give as examples among the local painters such varied artists as David Woodlock, Robert Fowler, A. E. Brockbank, Hamilton Hay, Herbert M'Nair, J. Y. Dawbarn, Alison Martin and Miss M'Crossan, and there are many others whose names will occur to you. Taking the local painters as a body, it is impossible to avoid coming to the conclusion that there is no special tendency at present like there was in the old pre-Raphaelite days. If I were asked what particular artists have impressed their individuality upon the greatest number of other painters I should have no hesitation in saying 'John Finnie and David Woodlock,' and the reason, to my mind, is that in one case Mr. Finnie's works appeal to the most natural taste, and with Mr. Woodlock his wonderful sense of ideal beauty affects everyone who sees his pictures. If there has been any particular school associated with Liverpool in the immediate past it is the water-colour landscape school which Mr. Finnie has more than any other artist helped to found—the fresh vigorous landscape school, of which I may mention as some of the most prominent exponents, George Cockram, John M'Dougal, James T. Watts, Talbot Kelly, H. Swanwick and Isaac Cooke. It is not easy, however, to distinguish between all the local painters and to label their particular styles, and there are many that might be classed in various other schools. At the present time there may be signs of a leaning towards naturalism, particularly among the portrait-painters and in the oil-landscape work of artists like Thomas Huson and Herbert Boyle, but this is difficult ground for a local painter, and I will not attempt to define the tendencies that affect the portrait-painters. When I say that we belong to the realistic school I mean that, although the influence of Whistler is felt by some of our body, so far as I can judge there are few signs of that kind of treatment that we associate with the names of Aman Jean and Greiffenhagen."

HISTORICAL BUILDINGS IN SCOTLAND.

At the Edinburgh Architectural Association meeting last week, Mr. H. O. Tarbolton, president, in the chair, Mr. W. T. Oldrieve, principal architect for Scotland of H.M. Office of Works, read a paper entitled "What H.M. Office of Works is doing for historical buildings in Scotland." There was a large attendance.

Mr. Oldrieve said the object of the paper was to let the architectural profession and the public know what was being done with reference to those national historical buildings of which the Government department which he represented had the charge. It was, he ventured to think, neither right nor wise on the part of a public official to avoid reasonable public inquiry into work carried on for the general good. Only those buildings would be referred to which had a national and architectural character. Such buildings might well be considered as national architectural treasures for which a Government should be held responsible, such responsibility being that of a trust which ought not to be avoided or abused. It appeared as though there were a general awakening in all civilised countries to this national responsibility, and within the last few days he had observed that one of the subjects for discussion at the National Congress of Architects to be held in London next July was that of the responsibilities of a Government in the conservation of national monuments. All architects and antiquarians must be pleased to see a growing interest on the part of the general public in this question, for only the enlightenment and improved artistic sense of the public could enable any Government to take efficient control and enforce the necessary provisions for the conservation of such buildings. Much had been done by legislative action in other European countries for the care of ancient monuments. Almost every European country except their own was taking action in the preparation of official catalogues of national monuments, and surely every possible means should be used to take similar action in this country. Scotland was rich in historic remains of architectural monuments of the past, but the greater number of these were under no official cognisance and subject to no official control. It appeared to him that the work of the National Art Survey of Scotland deserved special notice and recognition in this connection, and he could not imagine a more praiseworthy scheme than that of encouraging architectural students, under proper guidance, to systematically measure and sketch the more important architectural remains. If these were tabulated and published in due course they would be of universal value for reference when the official inventory was compiled. The historic buildings and remains over which their department had direct control might be classified under two heads:—(1) Buildings vested in the department; and (2) architectural and antiquarian remains, of which the Commissioners of Works were custodians under the Ancient Monuments Acts. It was now, however, recognised that other Government departments which carried out building works referred to the Commissioners of His Majesty's Works cases which affected ancient buildings of an architectural character, as, for instance, the War Department with reference to Edinburgh Castle, Stirling Castle, &c., and the Admiralty Department, as in the case of Rosyth Castle, a proposed restoration of which was contemplated.

The archæological remains of a minor character, so-called ancient monuments in Scotland, of which they were custodians, comprised:—The circular walled structures called Edin's Hall, on Cockburn Law, Berwickshire; the British forts on the hills called the Black and White Catherthuns, Forfarshire; the Pictish towers at Glenelg, Inverness-shire; the Stones of Callernish, Lewis; the Brough of Clickimin, Shetland; the Pictish tower at Mousa, in Shetland; the inscribed slab standing on the road leading from Wigtown to Whithorn; two stones with incised crosses on a mound in a field at Laggangairn; and the pillars at Kirkmadrine, Wigtownshire. Secondly, there were ancient monuments to which the Ancient Monuments Protection Act, 1882, applied, but which had not yet been taken in charge by His Majesty's Office of Works. These included the Bass of Inverury, the vitrified fort on the Hill of Noath, and the pillar and stone at Newton-in-the-Garnoch, Aberdeenshire; the British walled settlement enclosing huts at Harefaulds, in Lauderdale; the Dun of Dornadilla; the sculptured stone called Suenos Stone, near Forres; the cross slab with inscription in the churchyard at St. Vigeans; a group of remains and pillars on a haugh at Clava, on the banks of the Nairn, Inverness-shire; the cairns, with chambers and galleries partially dilapidated, Minnigaff, Kirkcudbrightshire; the Catstane, and inscribed pillar, Kirkliston; the Ring of Brogar and other stone pillars at Stennis, Orkney; the Chambered Mound of Maeshowe, Orkney. Thirdly, there were ancient monuments not included in the schedule of the Act of 1882, but which had since been taken in charge by H.M. Office of Works under that Act by order in Council, viz. ancient Runic Cross at Ruthwell, Dumfriesshire; St. Ninian's Cave, Wigtownshire; the Pictish Tower of Carloway, Lewis; cup-marked rock of three standing stones, Drumtroddan; the Moat Hill of Druchtag, semicircular earthwork, Barsalloch, and the ancient chapel of Whithorn, Wigtownshire; sculptured stones at Essie, Forfarshire; Roman camp at Rispain, and standing stone at Blairbowie, known as the Wren's Egg; and sculptured stones at Whithorn Priory, Wigtownshire; sculptured stones in Dyce churchyard, Aberdeenshire. Mr. Oldrieve explained next the working of the Ancient Monuments Acts, and pointed out that while the object of the earlier Act was the preservation of ancient monuments consisting for the most part of prehistoric remains, dolmens, ancient forts, &c., the Act of 1900 had a much wider scope, as therein "monument" meant any structure, erection or monument of historic or architectural interest or any remains thereof.

Mr. Oldrieve proceeded to show by means of limelight other important historical buildings under the charge of the Board of Works on which certain restorations had recently been made. First among them was Edinburgh Castle, the care of which, he said, had now been transferred from the Royal Engineers' Department of the War Office to H.M. Board of Works. One of the first things that was done was to rearrange, at a cost of about 1,000*l.*, the fire appliances at the castle, and it was now on that account much safer from fire than it had formerly been. They were now considering how best to remodel the block known as the "new barracks." He was quite alive to the necessity of moving very carefully in the matter, and before anything was actually attempted upon the building itself he should endeavour to have not only photographs and perspective sketches from various standpoints, but a model prepared for full consideration. As to Holyrood Palace, he mentioned that, among other things, an old sculptured panel which had been removed at the time of the Commonwealth would by-and-by be replaced in a recess in one of the turrets. It bore the Royal Arms of Scotland with Unicorn and St. Andrew's Cross. Another little bit of restoration work had just been done in Queen Mary's Audience Chamber by the removal of a comparatively modern partition which divided the room into two parts. Visitors would now be able to see the chamber practically as it was at the famous interview of John Knox with Queen Mary, and it would be worth while to look at the old ceiling now that it could be properly seen, especially as it was the only ceiling at Holyrood which was part of the original building as occupied at the Queen Mary period. He also mentioned that an interesting little stair which had until recently been kept closed, between the audience chamber and the prison cells above, had now been opened to view. Mention was also made of what was being done for the restoration of the tapestries in the Palace of Holyrood and for the preservation of the grave slabs in the Chapel Royal. He next directed attention to the restoration and redecoration of Parliament Hall, which has been already described, and reference was also made to preservative work which had been executed at Linlithgow Palace, at Dunfermline Abbey, at St. Andrews Cathedral, where, in September last, stone coffins of the Priors had been discovered; at Arbroath Abbey, Dundrennan Abbey, Fortrose Cathedral and Haddington Abbey.

Concerning Rosyth Castle, he said it was generally known that that old keep formed the central feature of the proposed naval base on the Forth. This was one of the cases in which the Board of Works were acting as architectural advisers to the Admiralty. It was thought that the old keep might be restored for the purpose of utilising the accommodation available in some way connected with the naval scheme. Accordingly designs had been prepared for a restoration, one principal apartment being utilised as a reading-room for naval officers and another for the purpose of a naval museum. The plans were now under consideration of the Lords of the Admiralty, and it was hoped the scheme might receive sanction. It would certainly be a pity to let the building fall into decay since it was of some historical interest. Two dates were found upon the building, one 1561 and the other 1635 and 1655; along with these being some initials (which might be "M.R."), an anchor, and "S.M.N." He mentioned that Mary Queen of Scots landed at Leith about the first date. In conclusion, Mr. Oldrieve said he would be always very pleased to receive information and suggestions which might help to conserve those national treasures.

On the motion of Professor Baldwin Brown, seconded by Mr. Hunter Crawford, Mr. Oldrieve received a cordial vote of thanks.

WOLVERHAMPTON ASSOCIATION.

THE annual general meeting of the Wolverhampton and District Architectural Association was held on the 18th inst., at the Law Library, Lych Gates, when the following officers and Council for the ensuing year were elected:—

President, Mr. Fred T. Beck; vice-president, Mr. W. Edwards; members of Council, Mr. T. H. Fleeming, Mr. J. Lavender, Mr. Ashton Veall; hon. treasurer, Mr. Harrison Weller; hon. auditor, Mr. A. Eaton Painter; and hon. secretary, Mr. W. J. Oliver, 1 Darlington Street, Wolverhampton.

Mr. W. Edwards, the vice-president, presided in the absence of the president (Mr. Beck) owing to indisposition, who was therefore unable to deliver his annual address, the meeting being of a purely business nature.

The Late Mr. Hyman Henry Collins, F.R.I.B.A., F.S.I., of 61 Old Broad Street, E.C., and Maida Vale, W., architect and surveyor, and an alderman of Paddington, has left property valued at 35,461*l.*

LIVERPOOL ARCHITECTURAL SOCIETY.

On Monday Mr. T. T. Rees read a paper before the Liverpool Architectural Society on "Architects and City Improvements." The author said that he did not propose to deal with garden cities, but rather to take cities as they stand and suggest their improvement. To begin with buildings, why should not British municipal authorities have power, as in continental cities, to regulate the appearance of a house front? The German towns offered examples of open spaces more accessible to the poorest inhabitants than were those of Manchester, for instance, to the richest. The people of the large German towns were, thanks to better environment, more robust in appearance and, on the average, taller and broader than the people of the larger British towns. By pursuing, or not correcting, the old plan of crowding of the population, health committees were incurring tremendous liabilities in the future. Bidston Road, Birkenhead, might serve as an illustration of modern tendencies. It ought to have been twice the width, with a tree-planted footway in the centre, like Prince's Road, Liverpool. Every street over 50 feet wide in the crowded parts of a city ought to be planted with trees, and no new streets should be less than 50 feet in width. The Corporation ought to have power to insist on streets being continuous, and not blocked by an arbitrary landowner. Having contended for the more systematic cleansing of streets and for the abolition of overhead wires, the lecturer proceeded to advocate land purchase by municipalities on their borders. The pioneer action of the Prussian Government in this respect should be followed. Municipalities ought, of course, to supervise and control private restrictions as to building, thus preventing the deterioration of property. Having commended the gift to Liverpool by Alderman W. B. Bowring of the Roby Hall estate, and extolled the former wisdom of Birkenhead in buying its chief park, he expressed a desire to see Sir Joseph Paxton's beautiful designs for that park carried fully into effect. He wished also to see the system of placing seats in the grounds of places of worship become more general. Contrasting Hamilton Square, Birkenhead, and St. John's Gardens, Liverpool, he praised the simplicity and effectiveness of the former to the disadvantage of the latter. The continental principle of placing important buildings on prominent sites required greater study in this country. Moreover, England lacked the continental censorship of hoardings and posters. Chicago permitted no hoarding in a residential street without the consent of three-fourths of the inhabitants. Edinburgh had obtained power for its Corporation to license positions for mural advertisements. The advertisements round the Queen Victoria Memorial in Liverpool had proved a sore trial to the nerves of many. He paid a tribute to firms adopting artistic posters, and denounced the employment of sandwichmen as "a disgrace to a civilised nation." Turning to the smoke nuisance, he doubted whether British municipalities took pains to exercise their full powers. In conclusion, Mr. Rees advocated that architects should set themselves to awaken civic pride, which would have financial as well as artistic and hygienic fruits.

The discussion was adjourned until the next meeting.

Correspondence

Day Courses for Architectural Students.

Sir,—In your issue of the 5th inst., under the heading of "Architecture in 1905," you say, referring to the scheme of day training now becoming general for architectural students, "The system brought into working existence by the Architectural Association has formed the model on which educational methods have been based by University College and King's College, London, by the universities of Manchester and Liverpool," &c.

May I be allowed to point out that the first comprehensive day course of training for architectural students in England was instituted by me over eleven years ago, viz. in October 1894, in the University of Liverpool (then University College), and consequently several years before the Architectural Association attempted any day course. The course, a two years' one, was for students before they entered an office, and the whole of their time had to be given up to the work. When I returned to London in 1903 there were about twenty-five students taking either this course or the degree course (B.A.) which had been instituted about three years previously.

The present two and three years' courses at University College, London, are on similar lines to the ones I started in Liverpool, and are not based on any course or courses of the Association.

If you can find space for this letter I shall esteem it a favour.—Yours faithfully, F. M. Simpson.

January 17, 1906.

P.S.—I enclose a pamphlet published in 1895, in confirmation of the above statement.

GENERAL.

Mr. Jerry Barrett, the painter, died at Harrow on last Sunday in his eighty-second year. He painted several Court scenes, which were engraved.

Subscriptions are sought by the committee, of whom M. Bonnat is president, for the erection of a monument to the late W. Bouguereau, the French painter, who died last year.

Mr. Banister Fletcher is to deliver a course of University lectures on "Architecture" at the South-Western Polytechnic.

The Brighton Borough Surveyor has been instructed to keep a book with counterfoils of all orders for extras under contracts. This book is to be submitted to each meeting of the committee.

Mr. J. S. Sargent's portrait of Miss Ellen Terry as Lady Macbeth has been presented by Mr. Duveen, sen., to the National Gallery of British Art.

The Late Mr. L. T. Ashwell has bequeathed 500*l.* to the Artists' Benevolent Fund.

The Education Committee of the Bournemouth Town Council have secured a site on which to erect a school for the purposes of centralising the higher branches of science, art and technical instruction in the borough. The number of students in the various schools last year increased from 1,100 to over 1,300.

The London County Council on Tuesday decided "That it be referred to the general purposes committee to consider and report whether, having regard to the fact that the work included in the references to the highways, Building Acts, improvements, rivers and bridges committees is intimately connected with the provision of adequate facilities to cope with the traffic problem of London, the time has not arrived when, with a view to co-ordinate the various methods of dealing with this problem, it is desirable to establish a traffic committee."

The Swansea Town Council having resolved that it is desirable to erect a pavilion in Victoria Park, recommend :—(1) That designs be invited by public advertisement for a pavilion to seat 12,000 persons at a cost not exceeding 15,000*l.*, and that a premium of 50*l.* be offered for the accepted design, such design when paid for to become the absolute property of the Corporation.

A Bill has been introduced in Washington to authorise the adoption of the metric system from July 1, 1908.

The New Working Men's College in Crowndale Road, St. Pancras, was opened by Sir William Anson on Saturday evening. The site, buildings and equipment have cost nearly 30,000*l.*, of which 20,800*l.* has been recovered by the sale of the buildings in Great Ormond Street, and 8,800*l.* donations to the building fund. The new buildings have been designed by Mr. W. D. Caröe.

The Ceiling of the large hall in the French Ministry of War, known as the Salle de Maréchaux, fell last week and destroyed all the furniture. Fortunately there was no Council engaged at the time.

Probate of the Will of Mr. John Feeney, proprietor of the *Birmingham Daily Post*, has been proved. As has been already announced, the testator bequeathed to the Corporation of the city of Birmingham the sum of 50,000*l.*, to be applied by them towards the cost of erecting a new picture gallery on a site provided by the Corporation, and he directed that if the whole legacy should not be so expended any surplus should be expended on buying paintings by the old English masters. To the Birmingham University 20,000*l.*, to be invested by that body, and the income thereof to be applied in maintaining a professor, with suitable equipment, lecturing on some one or more scientific subjects directly connected with some one or more of the trades and industries carried on in or near Birmingham.

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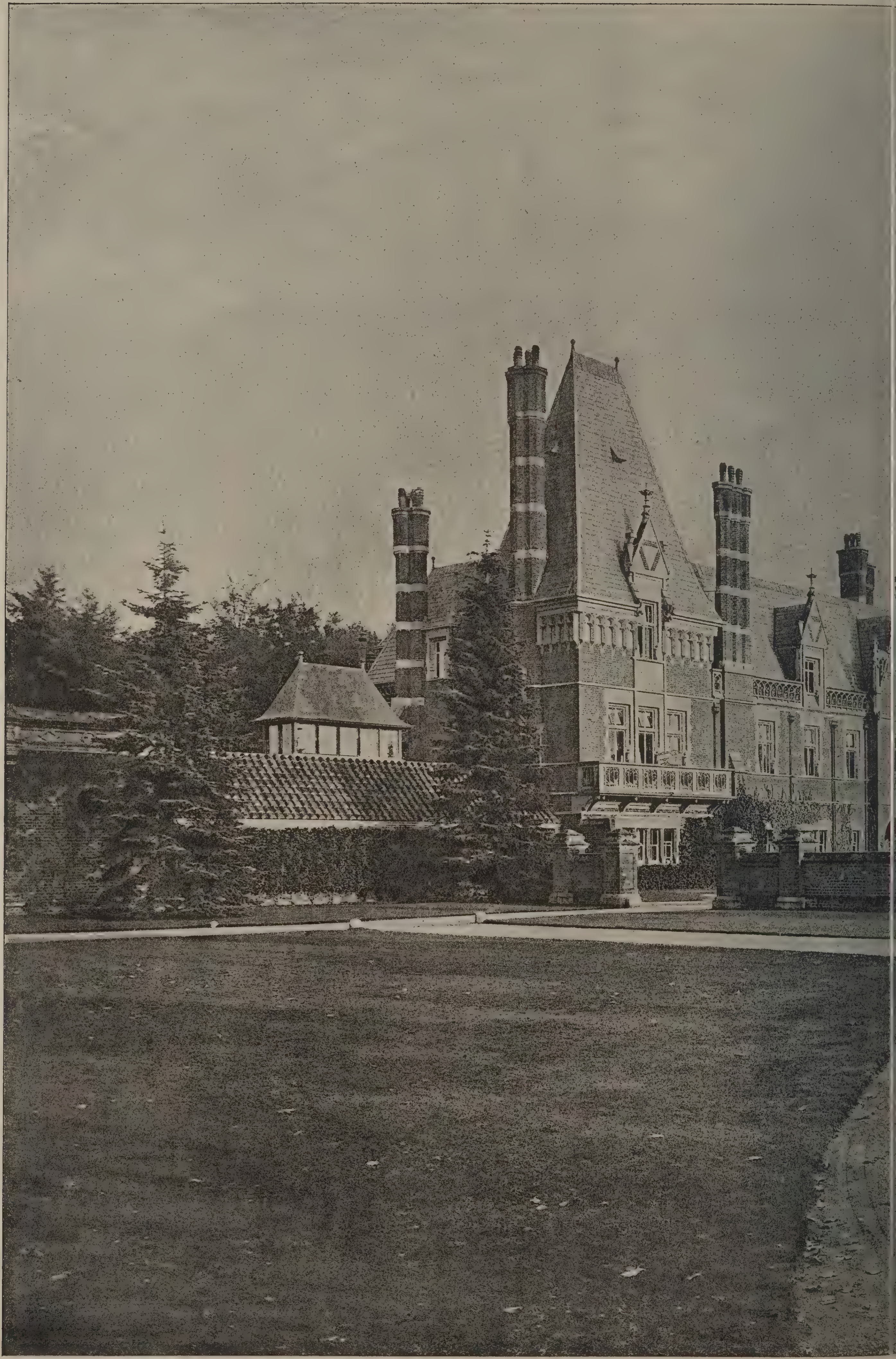

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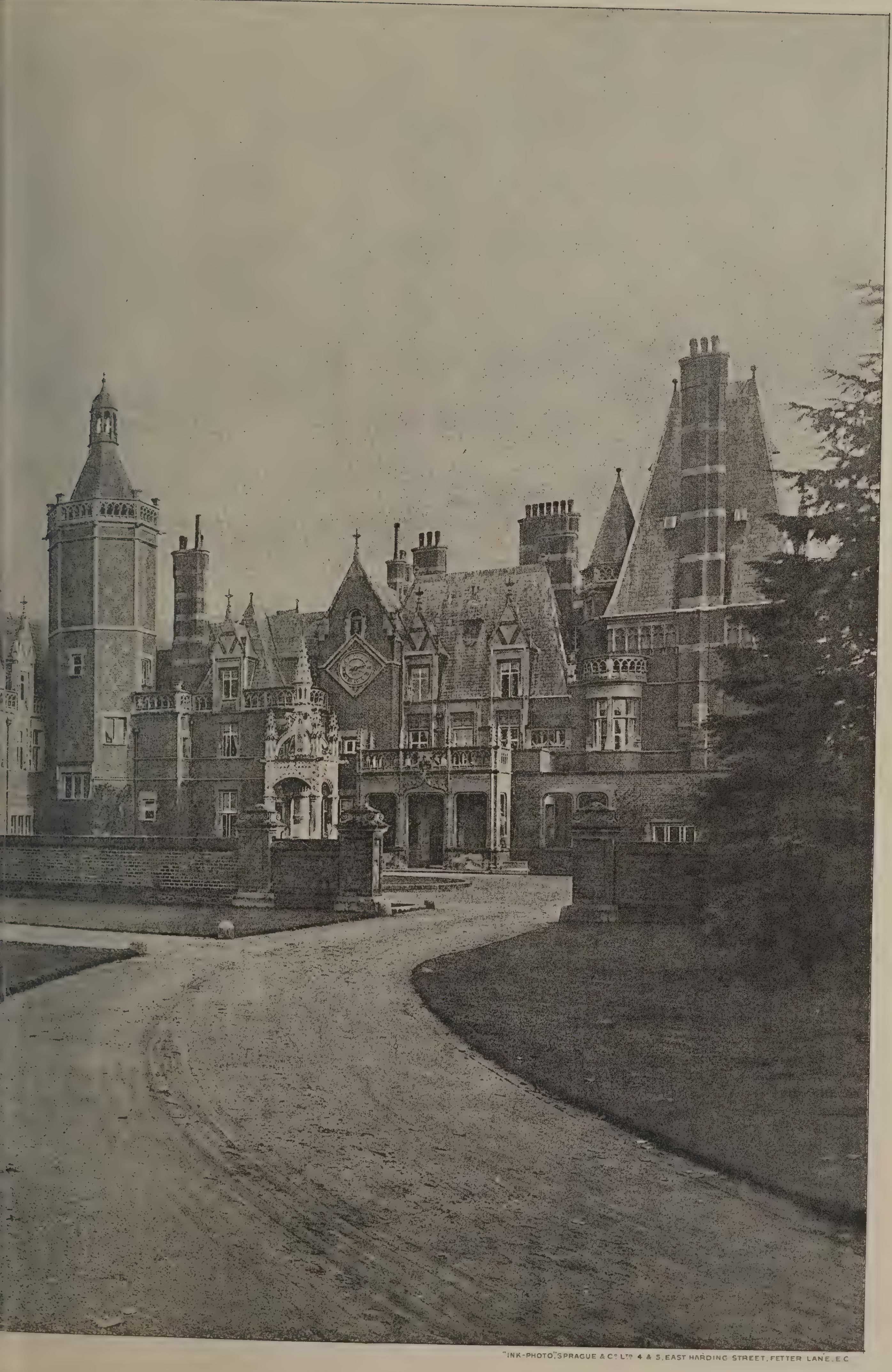

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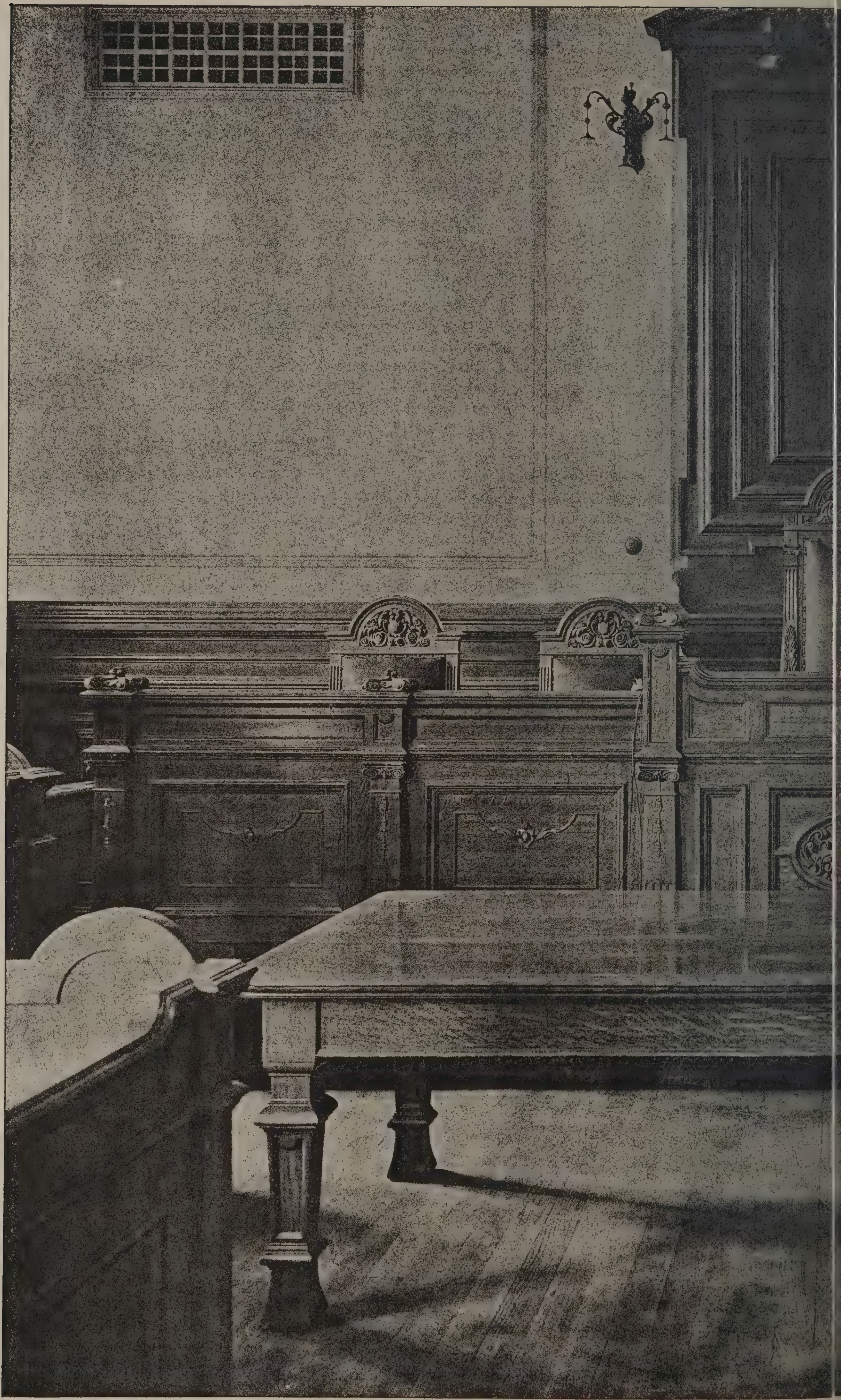

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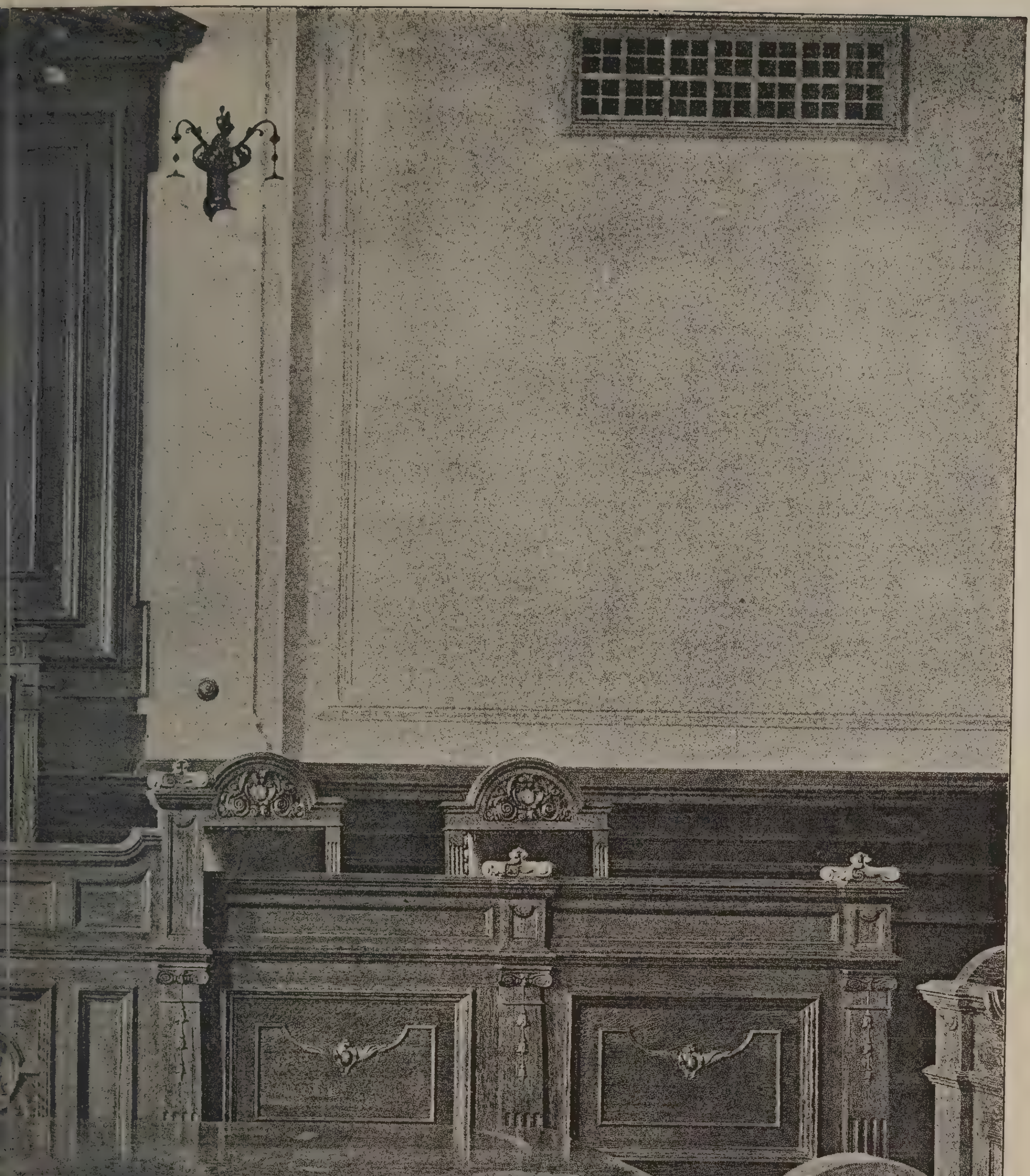

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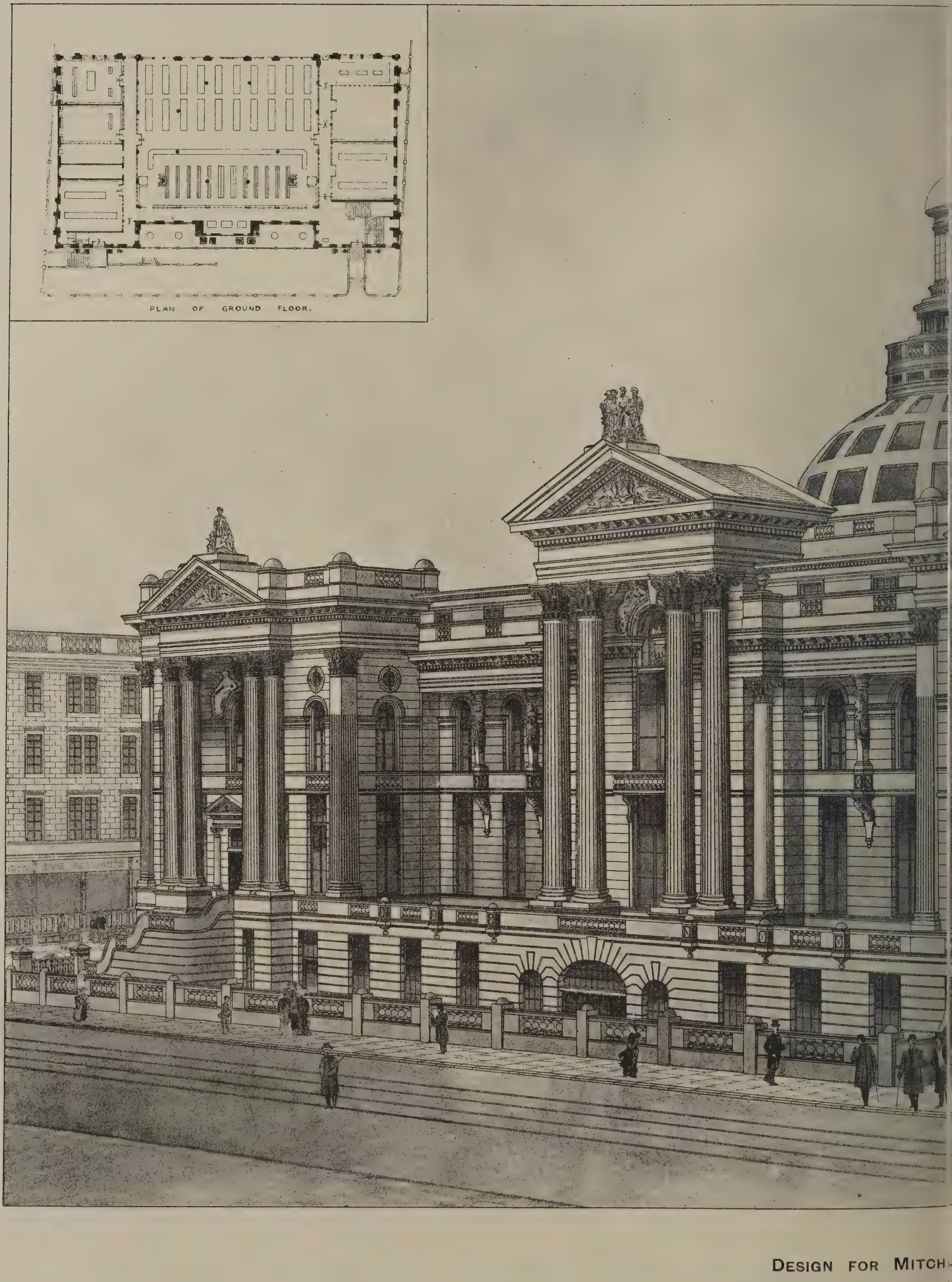

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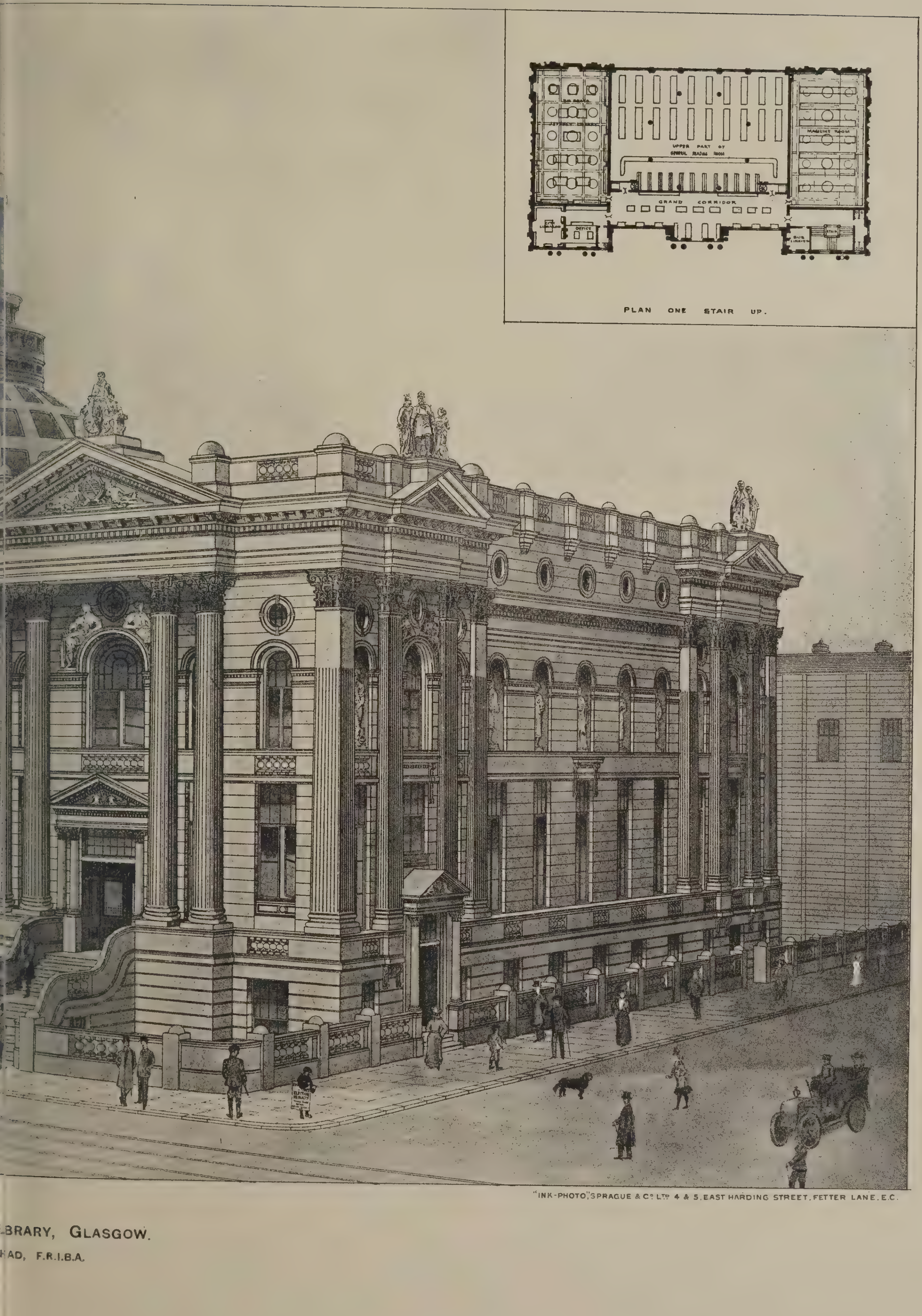

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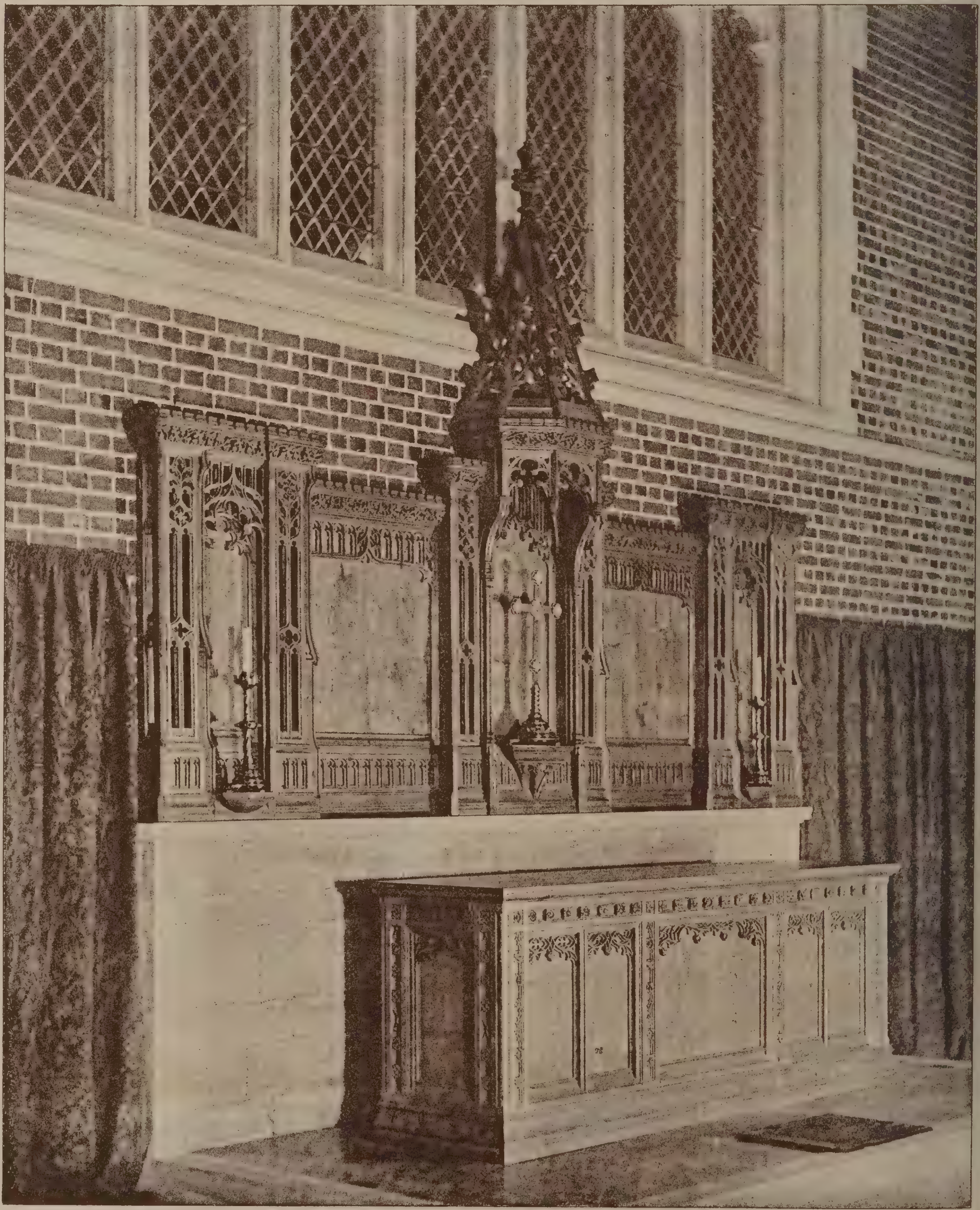

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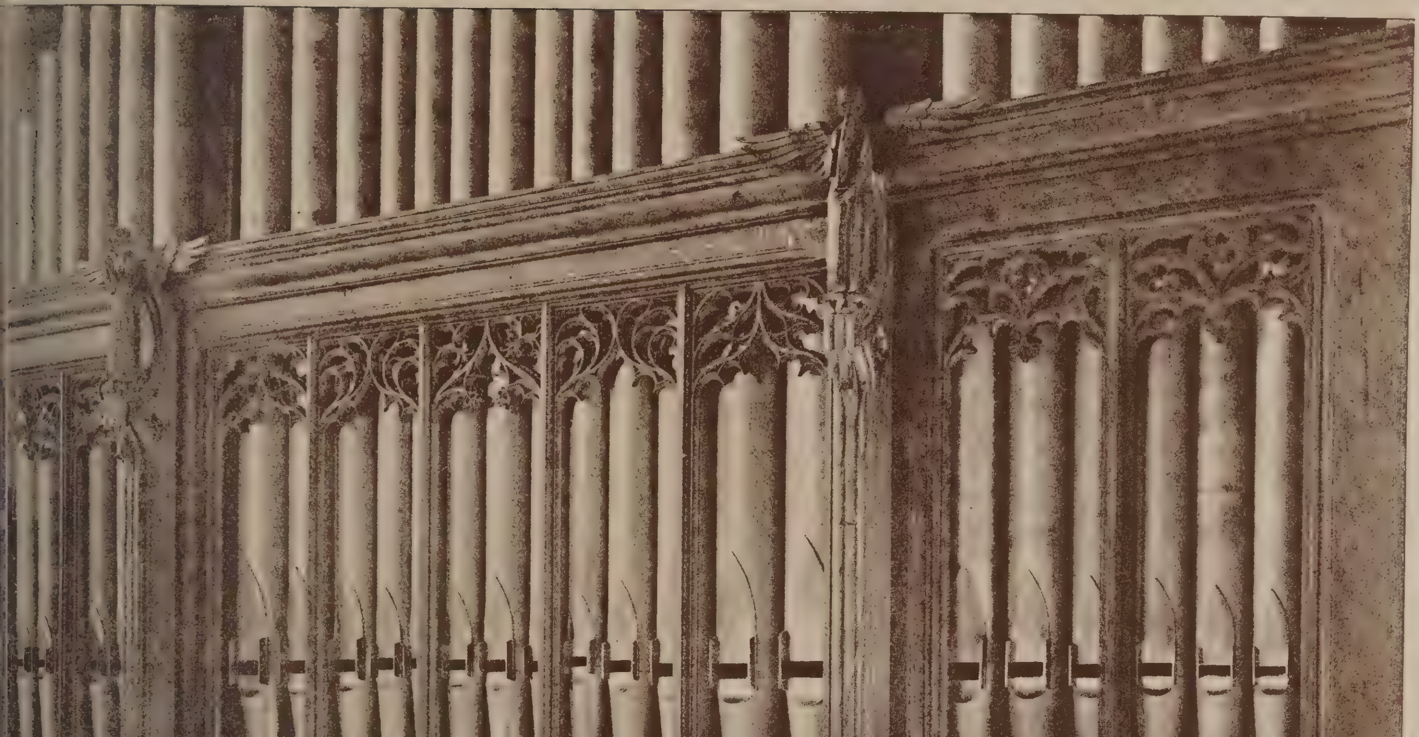

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THE WEEK.

THE plan by Mr. WHITIE, which was selected in the competition in the Mitchell Library, Glasgow, did not fully meet the requirements of the librarian. Another plan was accordingly prepared which would provide the librarian with the necessary accommodation, and which would be capable of extension. The alteration, however, will entail an additional outlay of 5,850*l*., including 1,800*l*. for a dome. The representative of the libraries committee mentioned that it had been said that it was hardly fair to the other competitors to introduce so great alterations on the design selected; that if they had known they could go to 50,000*l*., designs more fitted for the purpose would have been submitted. But the Corporation, he said, fixed no limit; they simply said that, in their opinion, the necessary accommodation might be provided for 40,000*l*. They left the architects, however, to judge for themselves, and, as a matter of fact, not one of the designs came within 40,000*l*. The one preferred reached close upon 50,000*l*., and any design that might have been selected would have required considerable modifications, and additional expense would have been incurred. It was also denied that the plans of other competitors had been appropriated. All that had been done was to adopt portions of the premiated plans, to which they had a right. There was no opposition, and the amended plan was accordingly adopted.

WE published some weeks ago the report of the Building Act committee of the London County Council recommending that district surveyors should be paid by salary instead of by fees. Fees were to be levied as before, but they were all to be handed over to the Council. It is remarkable that the architects of London seem to be indifferent to the proposed change, and it might consequently be inferred that officials who were paid fixed salaries would be as acceptable as those who received fees. The main consideration must, therefore, have appeared to the Council as one of profit. Assuming that under the new system the cost of the officials would eventually be 40,245*l*. per annum, while the fees amounted to 50,748*l*., and were likely to be increased, a margin was left which would secure the Council against loss. The salaries to be paid were, therefore, arranged at 1,000*l*., 800*l*. and 500*l*. a year, and there would be also the payment for assistants and clerks. The finance committee, on examining the proposal, took a less sanguine view of the results. They considered the staff to be insufficient, and that there would not be the same incentives as at present to secure the payment of fees. The subject was discussed at the meeting of the County Council on Tuesday, and eventually it was decided by fifty-nine votes to forty-nine that the report should be referred back for further consideration. Whether any other steps will be taken in the matter is doubtful, for the advantages of the change are not evident.

THE jury for the architectural section of this year's Salon exhibition will be elected on the 21st inst. It will consist of thirty-six French architects, who will hold office during three years. The electors are to onsist of French architects who have received medals or other awards from the Salon, French architects who have been received in the Legion of Honour, and archiects who are members of the Society of French Artists. All architects who wish to vote personally will have to present their voting card. Voting by correspondence will also be allowed. The bulletin must be manuscript. If it is a printed document, or contains more than thirty-six names, it will be rejected. All the ulletins should be sent before the close of the voting to the president, and to each the voting card of the elector is to be affixed. From these regulations it will be seen that the thirty-six jurors fairly represent the architectural profession in France. If drawings are not exhibited in 1906, it may be assumed that they were deficient in artistic or constructive qualities.

ERRORS in quantities occasionally arise from substituting one kind of designation for another, as square feet for square yards. But as the contractors know that certain kinds of work are measured by a fixed rule, errors in tenders or accounts rarely follow the substitution. A case consequent upon so simple a mistake has gone through the whole course of the Scottish courts. A firm of contractors were employed to erect tenement houses in Stonehouse. Contrary to the usual practice, the chimney stalks were to be priced in the schedule at a rate per square yard instead of per square foot. Six contractors tendered. Three put down a price per square yard, while three charged per square foot—one of them being the successful firm. On the completion of the work the architect valued the chimney stalks per square foot, and the contractors were paid at that rate. The building owners afterwards imagined that the architect had paid for that part of the work nine times the proper price, and they brought an action against the builders to recover 78*l*. The Sheriff-Substitute found for the plaintiffs. But on appeal the Sheriff reversed the judgment. Then the case was brought before the Court of Session and four judges. Their lordships affirmed the Sheriff's judgment in favour of the contractors. Their lordships held that the price charged was a fair and usual rate per square foot, and that the money received was due in equity. The plaintiffs had failed to prove that the money was not equitably due. The discovery of mare's nests sometimes causes ridicule. But in this case it is satisfactory to know that the clever discoverers will receive their reward not only in being made the subjects of laughter, but in having to pay the costs which arose in the three courts.

THE House of Lords has decided, in the case of KIRBY *v.* Assessment Committee of the Hunslet Union, that when premises, used as engineering works, are assessed for the purposes of a poor-rate, the value of the machinery on the premises to a hypothetical tenant, though not affixed to the land, must be taken into consideration in arriving at their rateable value. If the premises and the machinery are occupied together, so that in substance the thing demised is a factory, the whole concern, building and machinery alike, is rateable; and obviously in such a case the machinery must be taken into account as enhancing the letting and therefore the rateable value of the property. The landlord and the tenant may have made special contracts as to the ownership of the machinery, but the rating authority cannot regard these contracts. The premises must be looked at in their present condition, and if the machinery enhances their letting value, that value so enhanced is the basis for rating.

WHAT promises to be an important work is announced by the Caxton Publishing Company. The title is, "Modern Buildings: their Planning, Construction and Equipment." There will be six volumes, which will treat systematically of planning, construction, specification writing, quantity surveying, dilapidations, heating, ventilating, electric and gas lighting, drainage, internal fittings and decorations, &c. The general editor is Mr. G. A. T. MIDDLETON, vice-president of the Society of Architects, who will be assisted by a staff of writers who are experts in their various departments. The first volume, which will be copiously illustrated, is to be issued immediately.

EMILE BOUTMY.

A DISTINGUISHED Frenchman, Émile Boutmy, died last week in Paris. He could be considered as one of the last of the doctrinaires. According to Littré, politicians were so named who, at the Restoration, endeavoured to lay down the doctrines of representative government. Stuart Mill and Grote were English types of the species. A good many years have passed since Louis XVIII. returned after the downfall of Napoleon. But it is still believed, at least by a minority, that the neglect of the principles which the doctrinaires established has caused most of the troubles in France. Accordingly, after the Franco-Prussian war, M. Boutmy founded a school of political sciences which was open to all who cared to study the doctrinaire system of government. He presided over it until a short time preceding his death; and to the end he remained confident in the belief that if France is to attain the position in Europe which should belong to it Frenchmen will have to adopt a definite theory of the kind which he advocated.

We have nothing to do here with politics, and need not, therefore, consider whether M. Boutmy's teachings were in any way applicable to Great Britain. If we refer to his effort as an amateur legislator, it is merely because that was one of the manifestations of his nature. John Locke prepared a constitution for the American colony of Carolina, and he was only one among many philosophers, each of whom considered that his own theory of mind was universally applicable. Émile Boutmy was formerly a professor in the École spéciale d'Architecture in Paris, and his lessons on æsthetics corresponded with those he delivered on politics. "Show me your company and I will tell you what you are" is a very ancient proverb; and when it is known that Boutmy was the closest friend of Taine, students of French literature will be able to infer what was the bond between them. Taine, in common with a certain class of philosophers, believed in the inevitableness of everything that happens. All that has to be done is to master the terms of the syllogism of life, and there is no difficulty in foreseeing the conclusion. When Taine said that a sonata of Beethoven was as perfect as a syllogism, he was expressing an idea that was familiar to his friends. In various ways everything to him assumed a syllogistic form, and we suppose he would have demonstrated that his old clothes—for he was the shabbiest man in Paris—were sublimated by being part and parcel of some wonderful proposition. As for analysis, he believed the method adopted by botanists with a flower was equally adapted to peoples, epochs and races.

A notion of the system and its rigidity can be derived from the book which Boutmy wrote, and which he called "The Philosophy of Architecture in Greece." Taine described it as the work of an eminently philosophic spirit that had a passion for general ideas, that could systematically arrange them and follow out their consequences to the smallest detail. The analysis was said to be the true light which enveloped the subject. Boutmy was described by his friend as the most faithful of the votaries of the ancient Greeks, and who from being imbued by the Greek spirit naturally and invincibly followed their methods. If some young architect employed by Ictinus, and who had listened to the dialogues of Socrates, wished to explain the *ensemble* and the details of his art, it would be, according to Taine, with the minuteness, fairness and dexterity which Boutmy employed. When it was considered that the treatise was the author's first book Taine's praise becomes the more remarkable. It is well to remember that Boutmy's treatise appeared in 1870; and in the thirty-six years which have followed our knowledge of the Greeks has increased to a surprising extent. The only modern investigator referred to in the pages is, if we remember rightly, the late F. C. Penrose. If they were acquainted with the organised excavations in Greece, Boutmy as well as Taine might have modified their theories. Some critics would perhaps say that the conclusions are independent of and would not be affected even by Schliemann's discoveries.

Boutmy begins by explaining that the Renaissance artists and their successors held an erroneous notion about Greek architecture from the belief that Vitruvius had produced its bible and that his imaginary diagrams represented authentic examples. Greece was studied through Rome, and it required some ages to realise that Roman architecture was no more than a "noble and generous translation" of the original, like Dacier's "Homer." Fortunately it was perceived that Vitruvius was only a compiler from Alexandrian theorists, for the man who asserted that the Doric order was never employed for temples, and that the temples were so arranged that the statue should face eastwards, could not have seen a genuine Greek building. Credit was given to the students of the French school in Rome for their efforts. But it was pointed out that it was not until 1845, when Ballu made a restoration of the temple of Athena Polias, that an authentic Greek work was presented. It was only, in fact, in Greece that the psychology of the architecture could be explained.

Among all the temples Boutmy selected the Parthenon as his model. He first considered it in relation to the geography of Greece. With no class of men is the importance of geography more valued than with philosophers of the school of Boutmy and Taine. They believed they could discern a relation between the soil and the inhabitants. Everywhere in Greece, as the former points out, there were barriers to travelling, and even at the time of Strabo the roads and rivers used for traffic were in the most miserable state. The sea compensated for the shortcomings of the land, for Arcadia was the only part without natural harbours. The people were therefore navigators almost from birth, and as with the Vikings, piracy was honoured. The inhabitants were like sea and land, for there existed at least two races differing in qualities, whom we know as the Dorians and the Ionians. In Athens there was a conciliation of the two. From the dramas of Æschylus to the sculptures of Phidias intellectual work carried the imprint of duality. And Boutmy concludes by saying that majesty and grace, rule and independence, sobriety and richness of effect are alike sensible in the Parthenon, which thus represents the physical character of Greece as well as the ethnography of its inhabitants.

It is next pointed out that what was generally known as Greece was a poor country. Indigence, says Herodotus, is our foster-sister. The colonies were in advance so far as related to riches and opportunities for leisure. Wealth exercised its usual influence on the erection of temples. Some of the most important were outside the boundaries, while for those raised in Greece several years had to elapse before they were completed. The practice of meeting in assemblies was also a factor, for it led to the creation of cities. The Eastern invasion likewise served progress, for according to Aristotle it was only after the war with the Medes that the Greeks cultivated wisdom and virtue. Unlike the Easterns, the Greeks respected artists as well as poets; and not an instance is known of a slave practising painting or sculpture among them. The artist, besides being free born, was not a tool of the priests. His patrons were the public. The commissions for public edifices, Boutmy points out, were not given in an official bureau. Each competitor had to carry his plans and estimates before an assembly, and to defend them against objections. His accounts were also investigated in public, and in Ephesus there was a law declaring that the artist out of his own property must make up any excess of outlay over his estimate.

The psychology of Greek architecture begins according to Boutmy, with a consideration of the Greek individual, who, curiously, was also closely connected with idealism. The greatest revolution ever made in the human spirit was, he said, the recognition of the hero. In the East, and in Greece at an early time, man seemed to be subjected to the forces of Nature. Homer represents rivers as if they were living beings who took part in war. But the heroes defied nature, and approached in popular imagination to the gods. The human form in course of time became a type with the Greeks of what was greatest in creation. Architecture, in the East and in Egypt, became from its vastness the representative of the great physical forces; painting and sculpture were made subordinate to it, and were, as Boutmy says, like the vignettes in the illuminated service books of mediæval ecclesiastics. The Greeks avoided the erection of such colossal buildings as were seen elsewhere, and in course of time sculpture was allowed to be independent and eventually to take precedence of architecture in public esteem. The great writers do not recognise architecture. Boutmy points out what is recorded about Phidias, the sculptor, being the chief officer of works at the Parthenon instead of Ictinus, the architect. The reason was, he said, that the Greek temple was erected mainly as a shrine for the statue or idol, which was sometimes formed of gold or other precious material. Greece at one time may have imitated Eastern practice in having walls lined with gold and silver or covered with rich stuff. But that period was superseded by another, in which wealth was expended not on the temple but on its statue.

Coming closer to the Parthenon, Boutmy considers the distinctness with which everything is still seen in Greece. There were no trees of large size, and the few forests were only to be found at a distance from the centre of the intellectual movement. Everything was so simple that the variety of forms which charmed the Eastern artist would have given pain to a Greek.

There was so much rock its qualities were not without effect on the architects, and Boutmy does not hesitate to say that the Parthenon was a crystal, and one of a most simple kind. Although it was supposed to have been derived from a structure of timber, there was nothing in the temple that could recall vegetable forms. In the details there was the same love of geometrical lines. The ornamentation was also of extreme simplicity, formed by the repetition of an element which was very small and very distinct. In fact, the ornament resembled the borders of robes, and was intended to mark the limits of a surface. As to the polychromy which was used in the ornamentation, Boutmy does not approve of it. To him it exemplified a tolerance which was unusual and contradictory of what was believed about the predilections of the Greeks for simplicity and neatness.

It is pointed out that in the Greek poets there is a remarkable study of detail, which could only be obtained by the exercise of a developed power of analysis. A similar power is to be witnessed in Greek architecture. Unlike the Romans, who were indifferent about repetitions of the same form to serve various purposes, the Greeks recognised the office which each member of a building was to fulfil. They differentiated the parts to gratify the spectator, and they suggested the nature of the function which each part had to perform. Even the wall of a *cella* is shown to be only required for the purpose of separation, and not for support. The office of sustaining a load was entrusted to the columns. The columns for that reason were never cut into niches to hold statues, as is common in Hindu architecture, and, in fact, in no part of a Greek temple is a place found for sculpture which suggests a weakening of the masonry. Even the Egyptian columns, massive as they are, are made to suggest weakness by the bands which encircled them, and which were derived from the means employed for tying bundles of reeds. Boutmy saw in the Greek temple an example of the strictest logic, and shows its relation to the old dialectic. In the subordination of its parts he sees a correspondence with the Greek rules of literary composition.

The final part of Boutmy's treatise suggests that in the erection of a temple the Greeks were utilitarians. It is now common to consider the temple as if in its construction it resembled some great ornament which had to be complete in itself. But it is explained at length that the purpose of a Greek temple was to shield either a statue or some piece of wood or stone with which legends were associated. Sometimes the temple was called the edifice in which such a figure was to be found. The Erechtheum was known as the temple containing the old statue, *i.e.*, the Athene Polias, to whom the Panathenaic peplos was dedicated, rather than to the goddess of the Parthenon. The planning of the Parthenon was adapted to the purpose of displaying the statue which Phidias produced. There was no certainty about the way in which the building was lighted, but there is little doubt that the lighting was arranged with skill and ensured that dim religious light which enhanced the importance of the figure. The building also served occasionally for secular purposes, and we suppose the Athenians did not consider it was discreditable to allow Demetrius and his wild companions to use the opisthodomos for a dwelling.

We must, however, end our notice. M. Boutmy's book is not one of which an abstract can be made with advantage, for every line of it is worthy of consideration. Admiration of architecture in any form should always be welcome. It is, of course, difficult to explain how so perfect a structure as the Parthenon could have been constructed. It was, however, no accidental production, for the contemporary sculpture, literature, and, it may be, the paintings, were no less remarkable. It is easy to explain the surroundings of the temple and to believe that the forms impressed themselves on the designers. We can also allow for the character of the race. But the difficulty remains of explaining why the Greek artists surpassed those who lived in similar or more picturesque regions, and who also had an inspiring history before them. There is the mystery which Émile Boutmy has failed to disclose, in common with a great many other inquirers.

A DUBLIN BUILDING GUILD.

With the exception of the two cathedrals and a part of the city wall, there is little to be seen in Dublin which indicates the antiquity of the city. From its position it was attractive to invaders. The Danes possessed an important part of it prior to the Norman-Welsh invasion at the close of the twelfth century. In 1205, or about thirty years after Strongbow's appearance, orders were given for the erection of a castle in Dublin which stood on the site of the existing group of official buildings. A wall was erected to protect the parts occupied by English settlers, and in the fourteenth century a new line of defence was raised.

It was to be expected that the organisation of the inhabitants of Dublin should bear some correspondence with that of London. In the fifteenth century several trade guilds appear to have been established. The tailors obtained a charter in 1418; the barber-surgeons, apothecaries and wig-makers in 1446; the merchants in 1451, and the shoemakers in 1465. On various occasions processions of the trades, with banners and other insignia, can still be seen in Dublin; but it is not to be supposed that there exists any direct relationship between the modern societies and the ancient guilds. The men who march through the streets are members of trades unions.

It suggests the indifference to building of a substantial class which prevailed in Dublin, when we find that the Guild of Carpenters, Masons and Heliers, or Tilers, was not established until 1508, or three centuries after the time when a castle was erected. The guild for some unknown reason had also to include the millers. A volume of the minutes of the guild between 1513 and 1564 was purchased by the Dublin Corporation at the sale of the manuscripts of Sir John Gilbert, the historian of the city. An account of it is given by Mr. H. F. Berry in the last number of the Journal of the Royal Society of Antiquaries of Ireland.

There must have been carpenters, masons and tilers in Dublin at an earlier time. In 1366 a decree was issued by the body which served for a Corporation, allowing masters to make agreements to work for 2*d.* a day, with their dinner. The law of 1349, known as the Labourers' Statute, had to be obeyed in Dublin as in England, and it enacted that carpenters, masons, tilers and other craftsmen should not seek higher wages than were paid in preceding years, and if anyone took more he was to be committed to the nearest gaol. This was one of the efforts of perplexed rulers to prevent the working of what may be called the inevitable laws of political economy. It was the first attempt in this country, and was followed by several others intended to produce the same effect until the time of George IV. But there was some excuse in 1349. The plague, which was known as the Black Death, had passed over Europe, and it is supposed one-third at least of the inhabitants perished. Labour was scarce, and instinctively men demanded higher wages. The carpenters, masons and tilers of Dublin had to submit to the restrictive policy which Edward III. enforced in England. Another Act was passed some forty years afterwards which provided that master-masons of freestone, master-carpenters of free work able to be masters of their art were to take for the whole day 2*d.*, and other masters of the said arts by the day 2*d.*, and others of the said arts by the day 1½*d.* Master-heliers of slate, master-plasterers of walls, 2*d.* Heliers of stone, workers of walls and other labourers able to serve the artificers aforesaid, by the day, 1*d.* It is now impossible to determine exactly the value of pence in Dublin in the fifteenth century, and the position of the craftsman may not have been deplorable. If it corresponded with that of the English craftsman the men who received 2*d.* a day were able to live well.

There was some doubt about the preservation of the charter which was granted by King Henry VII. in the last year of his reign, for in 1583 the Corporation of Carpenters presented a petition that a certain document which bore a part of a seal should be accepted as the original charter. According to it women were eligible for membership as well as men. This would suggest that the Dublin guild resembled many others in different parts of Europe and was not established for the sole purpose of advancing the trade or mystery. In modern times we imagine the guilds to have been the main cause in the improvement of different trades. But it is doubtful whether the Mediæval guilds cared more for the education of the members than the modern trades unions. On the contrary, they seemed rather disposed to prevent the advance of the industry they represented; and, in fact, they appear to have exercised a large amount of tyranny. The Dublin Guild of Carpenters, Masons and Heliers, for example, could, under warrant of the master and wardens, send members as prisoners to gaol. The apprentices had to serve seven years, which seems to be an unnecessarily long period of training for the work which had then to be done. After serving the apprentice was to be brought by the master of the guild to be admitted to the freedom of the city. The apprentices were to be free and of the English nation, which did not, we suppose, mean they were to be born in England, but rather to belong to the English Pale in Ireland.

In the trade regulations of some foreign guilds it was necessary for everyone who served his term of apprenticeship to undergo strict examination and to submit trial pieces. But in Dublin it seemed to be more important to secure the franchise of the city, for otherwise an apprentice would lose his membership. In the last century the Dublin freemen gained notoriety by their conduct at elections, and it might be supposed that in the sixteenth century there were wire-pullers who took care that the carpenters, masons and heliers should be able to furnish the proper number of "citizens" whenever there was occasion for their services. Every brother of the guild had to take an oath that he would be faithful and true to the masters and wardens, that he would meekly obey and answer them, keep secrets and allow no man to hurt the fraternity, and also reveal to the master and wardens anything that might be done which would be hurtful to the brethren. In 1513, or five years after the founding of the guild, it was decided that a member was to pay 3*s.* 4*d.* if he employed any foreigner to work with him when he might have engaged another member of the community, as well as 4*d.* per quarter. Any guildsman who defamed or blamed the master had to pay 6*s.* 8*d.*, and for disrespect to the wardens 3*s.* 4*d.*

The Dublin guild, like those elsewhere, was to some extent a religious confraternity. The officers were selected at a meeting in the lady chapel of the church of St. Thomas. Fines were sometimes levied in the shape of wax for the lights. If the master or wardens did not appear on quarter days, unless prevented by just cause, they had to contribute a pound of wax. Eighteen members on one occasion had each to forfeit a similar quantity, and the beadle was also to pay likewise if he failed to warn them. Among the accounts are entries for the preparation of the wax or its conversion into torches. On one occasion the wax-maker received 2*d.* A woman was paid 14*d.* Another time a waxman for his labours was paid 20*d.* At these times meat and drink was supplied, The price of the wax varied. At one time it was 1*s.* per pound. It is remarkable that after the Reformation was established in England the practice of supplying wax for lighting images was tolerated.

In the sixteenth century the majority of the houses in Dublin were likely to have been constructed of timber. On that account there would be less demand for masons. The carpenters seem to have almost monopolised this guild. Mr. Berry says:—"A strong reason for the small number of masons within the guild will, perhaps, be found in the fact that it was customary at the time for masons to form into bands and companies that worked together under master masons, and the members of these roving companies would not be enrolled as freemen of the city guild." We are also informed that "in 1522 the guild consisted of thirty-three carpenters and heliers and four masons. In 1547, twenty-three carpenters, twenty-four journeymen carpenters, ten heliers and five journeymen heliers. In 1555, thirty-four carpenters, nineteen journeymen carpenters, nine masons and six joiners. In 1560, sixteen carpenters, eleven journeymen carpenters, six joiners, five heliers, three journeymen heliers and one mason. The few millers belonging to the guilds were not separately classed but appear among the carpenters." The master and one of the wardens were carpenters, the second warden a helier.

We are able to obtain some glimpses of the business transacted in the guild. In 1537 we learn that one member was promised the roofing of a church, but another member was entrusted with the work. The latter had to pay 3*s.* 4*d.* to his rival and 3*s.* 4*d.* to the guild. In another case a carpenter entered into an agreement that he would not execute mason's work. A helier was fined a noble for the use of slanderous words. An apprentice in some way offended his master a carpenter. The offence is not mentioned, but the apprentice was informed that if he again transgressed one of his ears would be slit and he would have forty days imprisonment.

The volume of proceedings ends in 1564. In the preceding year the famous statute of Queen Elizabeth was passed, which regulated the hours of working wages, apprenticeship and much else. It continued in force until the reign of George III. From som entries which are given by Mr. Berry, it is evident that in the following century the citizens of Dublin became more exacting in respect of the guild. It was ordered that those who followed the trades, including plasterers, should have ladders, ropes, trowels and scaffolds, so that the citizens should not be driven to provide anything for building or repairs save materials only. This is a remarkable revelation as to the manner in which work was carried out in the beginning of the seventeenth century. A defaulter was fined 12*d.* a day, and could be imprisoned until the money was paid. In 1620 there was another complaint about the practice of guildsmen undertaking more work than they could execute. And while work was spoiled and houses ruined, offenders walked the streets regardless of the damage done by them. It was resolved that on a complaint being made to the master of the company he could appoint another member to complete the work. And if the master neglected this duty the mayor could punish him by a fine of 20*s.* and imprisonment. It would appear that there was no superintendence of buildings in Dublin. The architect could not then have flourished. The workmen, so long as they were members of a guild, evidently allowed themselves the fullest liberty. Dublin was not, however, the only city in which laxity was permitted. We are thankful to Mr. Berry for revealing so much about the defective system with which Irishmen were satisfied.

PUMPING OPERATIONS AND THE RIGHTS OF SURFACE OWNERS.

The case of Fletcher *v.* The Mayor, &c., of Birkenhead has called attention to the injurious consequences to the neighbouring properties which sometimes follow upon the pumping operations of waterworks. In this case the defendants, under the authority of a private Act, had sunk a well about 180 yards away from the plaintiff's house. From this well they pumped large quantities of water for the supply of the district. The pumping operations resulted in withdrawing not only a large quantity of water from under the plaintiff's land, but also a large quantity of silt. The land, being left without support, settled, and the plaintiff's house was damaged. He brought his action against the defendants, and it was held that he was entitled to recover. The defences put forward by the defendants were based (1) on the Waterworks Clauses Act and the special Act of the Mayor and Corporation, and (2) on the general law apart from statute. (1) It was contended that the Acts gave the defendants power to take water, and that, as Parliament had authorised the act complained of, no cause of action arose.

Of course, an Act of Parliament may do anything; and if it is clear that Parliament has authorised the doing of an act which cannot be done without causing a nuisance, and has deliberately omitted to provide that the persons injured by the nuisance shall be compensated, no right of action will arise. But before coming to such a conclusion the terms of the Act must be closely scrutinised. "An Act of Parliament," once said Bowen, L.J., "may authorise a nuisance, and if it does so, then the nuisance which it authorises may be lawfully committed. But the authority given by the Act may be an authority which falls short of authorising a nuisance. It may be an authority to do certain works provided that they can be done without causing a nuisance, and whether the authority falls within that category is, again, a question of construction. Again, the authority given by Parliament may be to carry out the works without a nuisance, if they can be so carried out, but in the last resort, to authorise a nuisance if it is necessary for the construction of the works." In this case it was quite clear that the Acts did give compensation for any injury caused to adjoining land by reason of the exercise of the powers conferred by the Acts. The defence based upon the special Acts therefore failed. (2) The second defence was based upon the fact that the law does not, as a rule, recognise any proprietary rights in underground water which percolates through the ground in underground channels. If A by pumping operations withdraws such water from under B's land, B has no right of action for its loss. But it by no means follows that, if A by his pumping operations withdraws water from under B's land, and thereby causes B's land to settle, B has no right of action. In fact, the question whether there is at common law any right of support for land by means of underground water, other than by virtue of an express or implied grant, is still an unsettled question. It seems, indeed, to be clear that if A and B are the owners of a swampy tract of land, A cannot prevent B from draining his soil, even though the result is to let down the surface of A's land. "If," it has been said, "it were held that no man could drain his own soil because, by so doing, he would also drain his neighbour's, and so let down the surface, the ordinary beneficial enjoyment of land would be impossible without agreement of all the landowners affected, and the rule would be, once a morass always a morass." But it does not follow from this that under no circumstances is there any right of support to land from water; nor is it clear that there would be no right of action if such water were withdrawn and a settlement were caused, not in the course of ordinary draining operations, but by extraordinary pumping.

It was not, however, necessary to decide this doubtful point of law in the case upon which we are commenting. What was withdrawn in this case was not water only, but water and silt; and it was clear from the case of Jordeson *v.* Sutton, Southcoates and Drypool Gas Company, decided by the Court of Appeal in 1899, that to withdraw water and silt so as to cause land to settle is an actionable wrong. That was a case of first impression; but the conclusion there come to was based upon an American case, in which the legal consequences of cutting through quicksand were discussed. Lindley, M.R., adopted the words and the reasoning of Field, C.J. of the Supreme Court of Massachusetts. "Whatever," he said, "may be true of percolating waters, we think that the defendants had no right to take away the soil of the plaintiff . . . and that it is immaterial that the soil was removed by means of pumps from the trench into which it had fallen of its own weight, and had been carried by percolating water. We are unable to distinguish the case from one where the soil falls in from the surface in consequence of an excavation in the adjoining land. The plaintiff, if the facts be as he offers to prove, has been deprived of the lateral support to his land, in consequence of which the quicksand has run from under the surface of his land into the trench, and has been removed by means of pumps, and this has caused the surface to settle and crack. It was the duty of the defendants to prevent this." Clearly therefore a person cannot let down another's land by withdrawing the support afforded by a bed of water and silt. Probably he cannot do so by withdrawing the support afforded by a bed of underground water, unless his acts in thus withdrawing the support are done merely as a necessary part of the process of draining his own land. But this proposition cannot be regarded as settled till some case of this kind has arisen for decision.

The Carpenters' Company have arranged the following lectures, to be delivered at their hall in London Wall on six Thursday evenings in February and March at 8 P.M.:—February 15, The Rev. W. Marshall, F.S.A., on "Some Points of Architectural Interest in our Parish Churches"; February 22, Mr. Bryce, M.P., Chief Secretary for Ireland, on "The Relation of Architecture to History"; March 1, Mr. A. E. Bernays, on "Greek Temples and Ruins"; March 15, Mr. E. Guy Dawber, on "The Yeoman's House in England"; March 22, Sir Herbert Maxwell, on "The Neglected Resources of our British Woodlands."

PROVISION FOR SCOTTISH ART.

THE annual dinner of the Royal Scottish Academy was held on Friday. The President, Sir James Guthrie, was chairman. The toast, "The Royal Scottish Academy," was proposed by Sir John Stirling-Maxwell.

The President, in replying, said he made no apology for restating that they had nothing like accommodation either for the training of their students or for the placing on record in their exhibitions of elements that must be represented if they were to keep in touch with the living forces of their time. Apart from this miserable drag upon all their efforts at progress, they had no reason to be other than gratified by the results of the year that had gone. How about the training of those who were to carry on the arts? How about the national treasure-house, that ought to reflect what Scotland feels and what Scotland thinks on a whole side of the national life? These questions were only too easy to answer. Both were utterly unrepresentative. Art education was relatively worse provided for in the Scottish capital than in any of the great cities of the country. As they were aware, the emancipation of our Scottish art schools from the control of South Kensington had been of vital moment. The Scotch Education Department had been developing a system that might well be envied in the sister countries, and that system was doing excellent work in the great natural distributing centres. But, in spite of excellent effort here and there, Edinburgh was in this respect too much a medley of conflicting interests, and unless these could be brought into line there was little hope. Yet these very Scottish Education Departments had at present a great sum of money, from which generous provision could, and, he believed, would, be made. Unless the Department could make broad suggestions, and the Town Council (without representing any interests whatever except those of the city and country) could second them, the shame of being behind where it ought to lead would remain with this historic city. He looked with confidence to the Scottish Education Department, since he believed no other influence was strong enough to co-ordinate the excellent material they had. As to the National Gallery, it remained for Parliament to say what its fate was to be. But the real issue rests with the Scottish members of Parliament. It is to them we owe the attitude assumed by the Chancellor of the Exchequer, Sir Michael Hicks-Beach, which led to the appointment of a Committee by that staunch Scotsman, Lord Balfour of Burleigh. In the discussion initiated by Sir John Stirling-Maxwell, one of the Scots members expressed the hope that the inquiry into the whole subject promised by the Chancellor of the Exchequer was not going to take four or five years, during which Scotland should be gasping in vain for assistance. Well, the inquiry was conducted by the Committee with despatch, when we consider how fully they went into the matter; but although a fragment of their recommendations, in the shape of the annual grant, had been carried out, three and a half years had passed, and the main needs had not yet been met. So Scotland was still waiting. But he took encouragement from the fact that the Member whose timely words he had quoted had now some say as to how long she was yet to gasp, for he was at this moment the First Minister of the Crown—Sir Henry Campbell-Bannerman. But the matter could not end here, for in spite of the adage that the best way to bury a thing was to have a Royal Commission on it, he was certain that no fair-minded member of Parliament—Scotch, English or Irish—could blink the issues so clearly brought out and stated by that Committee. One of the most important of these was concerned with the Scottish annuity money. He thought they had no doubt as to the benefits that had flowed from the Union, but it was disconcerting to find that nearly 200 years after there was still misconception as to their clear right to the money for which so much was given then. For half a century that money had been made to do duty for expenses which, in the case of the two sister countries, were borne by the Imperial funds. The time has surely come when her own must be paid to her once for all. They might call the present concern a National Gallery. Would anyone pretend that a set of rooms with a third of the space of the National Gallery of Ireland (exclusive of the National Portrait Gallery of that country), less than a third of the space set apart by Glasgow in her main galleries for pictures alone (exclusive of handsome provision for sculpture, architecture, drawings, &c.), gave scope for a true mirror of Scotland's appreciation of the arts of painting, sculpture and architecture? The truth was Scotland had long ago exhausted the possibilities of an arrangement made half a century ago. Her National Gallery had been in a strait waistcoat these many years. Everything must be reconsidered. Accommodation and administration alike cried out for justice. As to the latter, clear financing and organisation must take the place of what had become obscurantism. It was not necessary that they should expect a dead lift on the part of the Government of the whole weight of the undertaking, but it was necessary that they should know what the Government was going to do. Nothing could clear the ground for a start worthy of the nation until this was done. If they got the gallery on the right scale Scotland would fill it worthily, never fear. But until they did the uncounted years were slipping past, and they were being robbed of their tribute. They claimed the redress of the pinchings of the forty years in the wilderness. They claimed the capitalisation and handing over to Scotland of her own money. They claimed justice for Scotland.

THE PRE-RAPHAELITE BROTHERHOOD.

A LECTURE was given on Saturday by Mr. J. E. Phythian, at the Mappin Art Gallery, Sheffield, concerning "Holman Hunt and the Pre-Raphaelite Brotherhood." He remarked at the outset that his object was in one sense to bring before the people Holman Hunt's book called "Pre-Raphaelitism and the Pre-Raphaelite Brotherhood," which was really Hunt's autobiography, with what he had to say about the Brotherhood. There was, of course, a great deal in the book of a purely technical character, but there was something of interest in it, too, more than that which appealed to the art lover alone, as they might readily appreciate when they considered the individuality, the honest English bull-dog qualities of the man. English art, the lecturer pointed out, had so much degenerated from the days of Hogarth, Reynolds, Gainsborough and others, that Constable was constrained to prophesy that in thirty years it would have ceased to exist; he thought it would be smothered under the load of tradition that he saw gradually encumbering it. The prophecy did not come true, but that there was some justification for it was shown by the fact that just at the time when it ought to have come true the pre-Raphaelite movement was begun in order that art might be vivified. "With some remarkable exceptions," said Hunt in his book, "art in our youth had become puerile and doting and it was high time to find a remedy. It stirred us to proclaim that art should interpret to men how much more beautiful the world is, not only in every natural form, but in every pure principle of human life, than they would without her aid deem it to be. If artists' work misguides men, making them believe that there is no order in creation, no wisdom in evolution, decrying the sublime influences as purposeless, we shall indeed be a sorry brood of men." This quotation set forth the two aims that characterised the work of Holman Hunt, Millais, Rossetti and other members of the Brotherhood — beautiful and wholesome guides for life. The Brotherhood did not purpose slavishly to imitate the work of the painters before the time of Raphael, but they returned to Nature and departed from convention and tradition. They went into the open and painted the natural truth they saw around them. They insisted upon following their own light and refused, to quote Russell Lowell's phrase, merely to be grave copiers of copies. In illustration of the passing from the artificial to the real, Mr. Phythian quoted an extract from a contribution by a French critic to one of the modern art magazines, in which he pointed out how the gestures of the post-Raphaelite paintings always seemed to be executed by an actor, whereas in the works of the painters of the fourteenth and fifteenth centuries the gestures appeared natural and unconscious, "and one should be really grateful to the English school for having proclaimed the grandeur and the puissant simplicity of Pre-Raphaelites." The Brotherhood was formed towards the end of 1848, and in the exhibition of 1849 the pictures they exhibited were favourably received, but in the following year, when the meaning of the mystic letters "P.R.B." that they attached to their signatures had been found out, and it was seen that they were revolting against authority, they were furiously attacked, both verbally and in the Press. As a specimen of the criticism to which they were subjected, the lecturer quoted the characteristically forceful and racy denunciation in "Household Words" by Charles Dickens of Holman Hunt's daringly realistic picture of the child Christ in the carpenter's home. The same mordant criticism broke out in the following year, but then Ruskin, with all the weight of his authority and judgment, came to their assistance, writing a notable letter, in which he maintained that their work, which had been said to be false, was truest of the true, and that of the accepted Academicians to be really the false and meretricious work. Ruskin's advocacy brought the Press and the public very largely over to the side of the Pre-Raphaelites, and the victory of originality and truth to Nature was virtually won.

THE IDEAL IN ART.

A LECTURE was delivered in the Hibernian Academy by Mr. W. B. Yeats on "The Ideal in Art." The title of the lecture, he said, was not his, as he thought it detestable, but Mr. Hugh Lane's. Art was simply the pursuit of the one central reality of them all, the revelation and the discovery of themselves, the representation in picture, in poem, in music of themselves. He was going to try to apply to painting certain fundamental principles of art which he had found true of poetry. He was convinced that all the arts were fundamentally one art, and what was understood of one art was properly understood of every art. There were two kinds of artists, the one kind who were like some mysterious priesthood, living in the obscure depths of the temple carrying on the office of their religion for themselves and the other priests. And there was another order that spoke to the people, taking up the images that already lay in their minds, giving them additional beauty and additional power. It seemed to him that Watts was in all his allegorical works seeking vainly for some element that he, the great artist, had to share with the mass of the common people. He was as constant in the pursuit of the multitude for his noble ends as Tolstoi was. The greatest joy that ever came to the artist, the highest element in his creative joy, was to contemplate his own personality, enlarging and completing itself in the mirror of his paintings. Great art in the past had always two creators, the artist and the multitude. The multitude could not see nature raw. They had vague beliefs, and it was the artist that shaped these beliefs to high and personal beauty. Of all Watts's pictures he (the lecturer) most loved the "Genius of Greek Poetry." You could not in art do anything deliberately or consciously. Nature was the mother of the artist, and nature was very jealous. She demanded that you should permit her to do all. She was a great temptress, and out of her temptations had been created poetry, painting, sculpture, the glory of the world. To compensate for all that had been lost from the art world of the past they had gained a more intense sense of the personal reality of the individual temperament than it ever possessed before. In Ireland they had myths and beliefs among the people as in the Middle Ages, and if Watts had been an Irishman he probably would not have painted these allegories of his, but would celebrate instead the national legends and the national heroes. In the last year of his life Watts got some books of Irish legends into his possession, and he said of them that they were the books of the year, the great literary sensation of the last year of his life. That enthusiasm was really expressing his desire for a means of communicating with the multitude.

THE OLD BRIDGE, AYR.

AS a result of a conference between representatives of the Ayr Town Council with Mr. J. A. Morris, architect, and others who have an interest in the preservation of the Auld Brig, the following arrangements have been approved:—

1. Mr. Oswald is, as soon as possible after the general election is over, to convene a public meeting in Ayr, when resolutions will be submitted and a committee appointed to take all steps considered expedient to obtain subscriptions for executing the works necessary for the preservation of the bridge.

2. Should the committee, not later than August 1 next, succeed in raising the funds required for the work (which it is presently assumed may cost about 10,000*l.*) the Town Council will allow the committee to carry out the necessary preservative works on the bridge, at the sight and to the satisfaction of an engineer of eminence to be selected by the committee.

3. The work will be proceeded with without delay so soon as the necessary funds are raised, and the whole work is to be finished not later than August 1, 1908, when, or at the completion of the work if of earlier date, the committee will cease to have any further connection with the bridge, the Town Council thereafter resuming full control over it.

4. Should the committee find it necessary to rebuild any portion of the bridge, they shall submit plans and specifications of same to the Town Council, along with offers for the execution of the work, and if the Council approve of same, they will bear the cost of such rebuilding out of the Templeton bequest funds. Should the Town consider it necessary that a temporary wooden bridge be erected while the structure is being repaired or rebuilt, they shall be at the expense of erecting and maintaining it.

5. Such portion of the Templeton funds as meantime may not be required for such partial rebuilding of the bridge shall be held by the Town Council in terms of the bequest to them, subject to such alterations thereon as they may from time to time obtain legal sanction to make.

6. The plans and specifications of the whole works to be executed by the committee shall be submitted to the burgh surveyor, that he may assure the Town Council that the proposed works will make the bridge secure for public traffic for the future, and until this assurance is given the work shall not be proceeded with. The surveyor shall not be entitled to object to the said plans and specifications on any ground other than the safety of the public.

7. The committee before proceeding with the work shall, so far as necessary, apply to the Harbour Trust, the Board of Trade and the Dean of Guild Court and all others whose interests may be affected, for any warrants or authority that may be required, and for these purposes they may use the name of the provost, magistrates and councillors of the burgh.

8. Should the committee fail to raise subscriptions, or damage or destroy the bridge during preservative or rebuilding operations, no liability of any kind is to rest upon them in respect of such damage or destruction.

TAYLOR ART COMPETITION.

BY the will of the late Captain George Archibald Taylor the trustees and the Royal Dublin Society are entrusted with a fund for encouraging art in Ireland, and competitions for scholarships and prizes are held annually in Dublin in the month of March. The competitions are open to all students of art not exceeding twenty-five years of age, who shall have attended for twelve months at least a school of art in Ireland, or who, being of Irish birth, shall have attended for the like period a school of art in Great Britain or elsewhere, and who shall produce at the exhibition hereinafter mentioned a work or works of art displaying sufficient merit or a fair promise of future excellence. The competition this year will be held on March 19, when the sum of 110*l.* will be offered in a scholarship of 50*l.* and two prizes of 35*l.* and 5*l.* respectively, in classes 1 and 2, and a prize of 10*l.* in class 3, for water-colours; also a special prize of 10*l.* for an optional work in class 4.

The following are the arrangements for the coming competitions. Candidates for the scholarship and prizes must submit for examination a work in one of the following classes:—

Class 1. For Painters—A composition or subject picture in oil or water-colour, size not larger than 36 by 28, and not smaller than 24 by 16 inches. Subjects—(a). For figure painters—"The Toilet." (b) For landscape painters—"A Windy Day."

Class 2. For Modellers—A statuette not exceeding 36 inches in extreme height. Subject—"A Dancer," also a study of a head life-size in basso-relievo. These models must be cast in plaster-of-Paris.

Class 3. Water-Colours—A prize not exceeding 10*l.* is offered for a work in water-colour. Subjects—(*a*) landscape—"A Garden at Evening;" (*b*) figure painters—"A Serenade." The work must not be larger than 24 by 30 inches and not smaller than 18 by 24 inches.

Class 4. Optional Work—A special prize not exceeding 10*l.* is also offered for competition, the selection of the subject in art being left entirely open to the competitor.

The necessary form of declaration and certificate may be obtained on application to the Registrar, Royal Dublin Society, Leinster House, Dublin.

Works for competition must not be framed nor bear the student's name, and must arrive at Leinster House not later than five o'clock P.M. on Saturday, March 17, 1906.

NOTES AND COMMENTS.

It has been generally supposed that the credit for the design of the Thames Embankment is to be awarded to the late Sir J. W. Bazalgette, who was the chief engineer to the Metropolitan Board of Works. He piloted the Bill authorising the construction through Parliament, the plans were prepared and the works carried out under his general direction. It is now claimed for the late Mr. Francis Webb Wentworth-Shields, who died on the 18th ult., that it was his plan that was recommended by the Royal Commission. Schemes for an embankment were proposed from the time of the Great Fire, and there must necessarily have been more or less resemblance between them all. Mr. Shields had, however, other claims for notice. He assisted Sir Gilbert Scott in preparing plans for the engineering construction of the Albert Memorial, to which the architectural and sculptural work serves as a veil. He was also the author of the small book, "Strains in Ironwork," which after its publication was to be found in every engineer's office in Westminster. Mr. Shields was an Irishman, and born in 1820; he served as pupil of Charles Vignoles. In 1843 he went to Sydney as city surveyor. While there he prepared plans for the first Australian railway. On his return he was appointed resident engineer for the works at the Crystal Palace at Sydenham. As a consulting engineer he was largely employed.

Although more than two thousand years have elapsed since Euclid informed the Egyptian monarch that there was no royal road to geometry, and that the study of his "elements" was indispensable, it is remarkable that men are still divided in opinion about the utility of his work. When they were prepared the propositions and problems were not supposed to have practical applications of the kind which geometry is now made to subserve. Yet the use of them is imperative in the examinations for membership of societies which claim to be practical. It was not until last July that the Law Society removed from their regulations the words "No proof can be accepted which violates Euclid's order," and substituted the words "Proofs other than Euclid's will be accepted." In November last the Surveyors' Institution decided to allow candidates the choice of Euclid or geometry. These changes have been due to the remonstrances of the Mathematical Association. But various other members of society consider that Euclid's "elements" have not the value which was accorded during many centuries. They were thought to afford a training in reasoning. But the time has passed for such roundabout methods of arriving at conclusions as are taught. In the examinations of the Royal Institute of British Architects a knowledge of the first two books of Euclid is expected. But the Mathematical Association was not apparently troubled by the consequences of architects following old-fashioned methods.

It has often been decided that when a local authority requires a house for the purpose of widening a street, and gives notice to treat under Michael Angelo Taylor's Act, they cannot take part of the house if, by taking a part, the identity of the house as a house is destroyed (*The Architect*, November 17, 1905, p. 305). In the case of Thompson & Jackson *v.* Mayor of Hammersmith this principle was applied to the case where the lessees of the house required had covenanted to make extensive structural alterations in the house. It was contended that, under these circumstances, the house could be reconstructed so as to be capable of use as a house after a part only of it had been taken. Buckley, J., held that the plaintiffs had an interest in the house in the condition it was in when it was leased to them; and that, though it might be possible to reconstruct the building after the defendants had taken the portion they required, the reconstructed building would not be a building of the same character as it would have been with this portion. If this decision is right it would seem that the question whether a local authority can take only a part of a house depends not upon the question whether the identity of the house as *a* house is destroyed, but upon the question whether the identity of the house as *the* house, *i.e.* such as it was before the alteration, is destroyed.

The notice to artists for the Royal Academy Exhibition has been issued. Water-colours, miniatures, black-and-white drawings, engravings, etchings, architectural drawings, and all other works under glass are to be delivered on Friday, March 30; oil paintings on Saturday, March 31, and Monday, April 2; and sculpture on Tuesday, April 3. No work will in any circumstances be received before or after these specified dates. All works must be delivered at Burlington Gardens entrance between 7 a.m. and 10 p.m. Last year it was stated that members of the Academy could send six works and non-members three. This year the announcement is: "No artist is allowed to send or exhibit more than three different works." The other regulations are unchanged.

ILLUSTRATIONS.

NORTHERN BANKING COMPANY'S OFFICES, GRAFTON STREET, DUBLIN.

The façade of the new building erected for the Northern Banking Company in Grafton Street, Dublin, has a frontage of 63 feet. It is finished with polished red Swedish granite columns, its base and entrance door having Alloa granite and Swedish green columns; Dumfries red sandstone is used for the first storey, with channelled joints, the remaining storeys being faced with Doulting stone from the Somerset quarries. The caps of the Corinthian columns are of Portland stone. Ample strong-room accommodation is provided in the basement, where a residence has been set apart for the porter. The strong-room work was executed by Messrs. Chatwood, Ltd. The floor of the public office is laid with marble mosaic, and the dado, which is about 3 feet 6 inches high, is of polished granite and marble. The shafts of the four Corinthian columns supporting the roof are of red scagliola. The walls above the dado are faced with Dumfries stone to a height of 10 feet 6 inches. The office is effectively lighted by means of a stained-glass lantern light and a large three-light window at the western extremity, bearing the arms of Belfast, Dublin, Londonderry, and Newry. The ceiling of the office is circular, and is divided into bays and panels with enriched and moulded ribs, the panels being filled in with pateræ. The manager's private residence is in the front of the building, over the entrance. There are offices to let in other portions of the building, approached by wide stone stairs and an electric lift, which travels between the basement and the upper storeys. The building is lighted by electricity throughout. The contractors were Messrs. H. Laverty & Sons, Ltd., Belfast; Mr. W. H. Lynn, R.H.A., being the architect.

CATHEDRAL SERIES.—TRURO: THE NORTH SIDE, SHOWING CENTRAL TOWER AND SPIRE.

HOUSE NEAR CAMBRIDGE.—DRAWING-ROOM.—THE HALL.

This house has been erected on the St. John's College estate, near Cambridge, for Mr. F. R. Cowper Reed, and is built in 14-inch red brickwork up to the first floor, and timberwork and rough-cast plaster over brickwork above, with red brick projecting chimneys. The hall, dining-room and drawing-room, illustrations of which are given, communicate with each other by folding doors, giving a reception-room of some 80 feet in length. The whole of the work, including the internal fittings and mantels, which are of oak, has been carried out by Messrs. Hinnels & Son, from the designs of Mr. H. Steward Watling, F.S.A., of Dovercourt and Ipswich.

THE COLONIES AND COLONIAL ARCHITECTURE.

(*Concluded from page* 50.)

THE ORANGE RIVER COLONY.

BLOEMFONTEIN, the capital of the colony, is regularly laid out, with a market square in the centre. The Raadzaal is a tastefully designed building which cost nearly 60,000*l*. It is surrounded by Ionic columns, and has a tower surmounted by a dome some 90 feet high. Other notable buildings are the old Raadzaal, the post office, the town hall, the museum and Grey's college. The Dutch Reformed Church, with its twin spires, forms a conspicuous feature, whilst among other places of worship are the Roman Catholic Church and Convent, and the cathedral of St. Andrew and St. Michael, with the bishop's lodge adjoining.

At Heilbron there are a Court House, post office and town hall, as well as two hotels. Brandfort can boast of its Dutch Reformed Church, which is considered a really fine structure. At Harrismith there is also a handsome Dutch Reformed Church, besides a commodious town hall.

TOWN HALL, QUEENSTOWN, CAPE COLONY.

THE RAADZAAL, BLOEMFONTEIN.

THE TRANSVAAL.

An exceptional field has of late years been offered here for architectural activity, and the transformation which has taken place at Johannesburg is of a remarkable character. The most noteworthy public buildings are the public library and the General Post Office. The façade of the latter is 200 feet long, and the building is surmounted by a tower 130 feet high, the main hall being 120 feet long by 38 feet wide. The Stock Exchange, in Marshall Square, is also a costly building. As a commercial and industrial city it takes pride in such buildings as the Corner House and the National Bank, the Carlton Hotel, the Consolidated Investment buildings, the National Mutual Life Association of Australia's offices and many others.

At Pretoria are blocks of buildings which were erected under the former Government. The former Raadzaal, or Government buildings, and the Palace of Justice are the architectural glories of the place. The former was designed by Mr. Wierda, and cost 138,000*l*. It practically fills one side of Church Square, where are situated several other buildings.

At Klerksdorp also there are several fine buildings, notably the Government buildings, with a good portico. The hospital, the largest in the Western Transvaal, is considered to be an up-to-date building, and the town boasts of several good hotels.

NATAL.

This colony, as is well known, derives its name from the fact of its discovery by the celebrated Portuguese navigator, Vasco da Gama, on Christmas Day 1497, an achievement commemorated by a drinking fountain and clock erected at Durban, which town was founded in 1835 and named after Sir Benjamin d'Urban, at that time Governor of the Cape. The new municipal buildings here, around which architectural interest is principally centred, are estimated to cost 320,000*l*., the architects being Messrs. Scott & Hudson. The original town hall, taken over by the Government for post and telegraph purposes, was finished in 1885, and cost over 50,000*l*, the clock tower being 164 feet high. The large market house cost 35,000*l*., and there is also a drill hall which is considered a fine building. The Durban Club, too, possesses suitable quarters, erected at a cost of over 50,000*l*. The baths, library, museum and the art gallery, moreover, add to the convenience and attractiveness of the town. In catering for the general traffic with their own people and with the interior colonies, the merchants of Durban have been compelled, we gather from the *British and South African Export Gazette*, to enlarge their structural accommodation to an extent unforeseen a few years ago, and with the aid of local architects they have contrived to do so in most cases with highly ornamental

JOHANNESBURG POST OFFICE.

A TYPICAL HOUSE IN DURBAN.

and artistic results. Eloquent testimony is afforded of the advance which is being made architecturally, while the desire for handsome and commodious public buildings is no less emphatically marked throughout the colony.

At Pietermaritzburg, so named after the leaders of the Dutch voortrekkers, Pieter Retief and Gert Maritz, the principal buildings are the town hall, which cost about 80,000*l.*, the Legislative Assembly Buildings, the Legislative Council Chambers, the Colonial Offices, the post office and the new railway station. The city, moreover, contains some statues and a number of institutions, churches, schools, &c.

In conclusion, we may add that the celebration of the centenary of the establishment of British rule in the Cape Colony is an opportune moment for devoting a little space to the subject of South Africa, for it was on January 5, 1806, that the British troops under Sir David Baird landed at Table Bay, and after defeating the Dutch garrison, secured the capitulation, which was ratified on January 19.

For some of our information we are indebted, besides the source previously mentioned, to the official guide book, "How to see South Africa," published by Gilchrist & Powell, Ltd., from which also some of our illustrations are reproduced.

THE ARCHITECT'S CERTIFICATE IN SCOTLAND.

JUDGMENT was given in cross actions between A. Donaldson & Co., Ltd., motor-car repairers and agents, Edinburgh, and J. R. & E. E. Pearson, architects and surveyors, Edinburgh, and others. Donaldson & Co. sued for 128*l.* 10*s.*, and in the counter-action Messrs. Pearson sued for 52*l.* 12*s.* The firm of J. R. & E. E. Pearson is now dissolved, but Mr. E. E. Pearson carries on the business under the firm name, and has taken over its liabilities, according to the *Scotsman.* Towards the end of 1903 A. Donaldson and W. G. Maxwell had resolved to form the limited company, and acquired a feu at Gorgie Road upon which to erect buildings for the carrying on of the company's business. The limited company was incorporated on February 2, 1904, with a capital of 3,000*l.* Prior to that date Messrs. Donaldson & Maxwell had employed Messrs. Pearson as architects and surveyors for the erection of the contemplated buildings. E. E. Pearson also undertook the office and duties of clerk of works. The work was completed in July 1904. The contractor for the mason and brickwork was James Smith. As the building proceeded the architects issued certificates in Mr. Smith's favour from time to time, and the amounts certified were paid to him by Donaldson & Co. On December 23, 1904, the architects granted him a final certificate for 240*l.* 9*s.* Smith was paid 100*l.* on account, but Donaldson & Co. demurred to paying the balance upon the grounds that the work done was in certain material respects not in conformity with the contract, and that considerable deductions fell to be made from the architect's measurements. Smith then sued Donaldson & Co. in the Sheriff Court for payment of the balance of 140*l.* 9*s.*, and the latter, after sundry procedure, consented to a decree being pronounced against them for the sum sued for, under deduction of 10*l.* which Smith was willing to make. Donaldson & Co. said they took that course because, as in a question with the contractor, they were legally bound to pay him what the architects had certified as being due to him "on account of work executed and materials supplied" under the contract. They then sued the architects for damages, the damages being, as they contended, measured by so much of the 130*l.* 9*s.* paid by them to Smith as was paid in respect of work not in the contract, but passed by the architects, or of any wrong measurements by the latter. The architects denied liability, and in the counter-action they sued Donaldson & Co. for 40*l.*, balance of commission alleged to be due; 10*l.* 10*s.* for preparing a second set of plans, and 2*l.* 2*s.* for revising and examining the feu charter or lease.

Lord Dundas found that in respect of the matters set forth in the action at the instance of A. Donaldson & Co. the pursuers or plaintiffs were entitled to decree for 72*l.* 5*s.* 1*d.*; that in respect of the matters set forth in the cross action by the Messrs. Pearson, the pursuers were entitled to decree for 40*l.*, and that the difference between these sums amounted to 32*l.* 5*s.* 1*d.* Therefore, in the conjoined action his Lordship decided against the Messrs. Pearson, who are to pay to A. Donaldson & Co. 32*l.* 5*s.* 1*d.*, and found no expenses due to or by either party. His Lordship said he was unable to accept the contention of the Messrs. Pearson that Donaldson & Co. need not and ought not to have paid Smith, but that, having done so, they were barred from suing the architects. He thought that an architect's duty in an ordinary case like the present was to give such supervision as would reasonably enable him to certify that the contractor's work had been executed in conformity with the contract, and that he would be liable to his employer on account of work certified by him, but which was in fact disconform to contract, and which proper supervision would have enabled him to detect and to reject. It might be that he had recourse against the contractors. It might also be that in such circumstances the employer might elect to sue the contractor and not the architect. But his Lordship thought that a contractor who had obtained a final certificate from the architect for work ostensibly done in conformity with the contract had a good claim against the employer for payment of the certified amount, or at all events, one which the employer was warranted in complying with whatever rights of relief might exist as among the various parties concerned. It appeared to him therefore that Donaldson & Co. were well advised in submitting to Smith's demand, and that their payment was not a voluntary one, but one in fulfilment of, at all events, a *prima facie* legal obligation.

RIVAL EDUCATIONAL SYSTEMS IN AMERICA.

"AN architect in America," it has been said, "is simply a draughtsman who has landed a job." If this be true, says the *New York Evening Post*, the problem of architectural education is simply that of doing the best one can by draughtsmen. It was in this belief that the Society of Beaux-Arts Architects some years ago opened classes in draughtsmanship and elementary design, admitting all comers, and following the method of competitive instruction which they themselves had learned at the great French school. The success of the transplanted system has been surprising. From the New York classes have come not only architectural draughtsmen of high quality, but also graduates who might claim the title of architect by a better right than the definition just quoted. In fact, the Paris prizeman of the new school receives the signal privilege of admission without examination at the mother school in Paris.

Inspired by their great success, the Society of Beaux-Arts Architects now makes the rather startling proposal that its classes should be recognised and supported by all the architectural schools in the country. This means more than the general acceptance of the Paris method; it involves the turning over of all practical instruction in architecture to a central school in New York, the outlying faculties retaining only their courses in mathematics, engineering, art history, and, in general, the bookish subjects subsidiary to the main study of design. It requires, withal, that these established institutions shall make generous contribution of their funds to a new school to be developed from that so successfully conducted by the Beaux-Arts Architects. Naturally, a summons to partial hara-kiri—or better, to radical self-amputation—has not been obeyed cheerfully by the elected victims.

But we have to do, after all, rather with a matter of principle than of politeness. If our traditional schools of architecture are so bad as they are said to be, they must soon shrink to their professors and stipendiaries; if the Beaux-Arts training is the most excellent, it must prevail. All must admit that the plan of the Beaux-Arts Architects is thoroughly serious, and cannot safely be laughed down. For a generation and more Americans have brought back the training of the Paris *ateliers*, whose former students include, with few exceptions, the ablest of the younger architects. Moreover, the Ecole des Beaux-Arts has at least worked out a system thoroughly practical and generally influential. A stroll in any of our cities, or a glance at an album of Buenos Ayres, will equally give evidence of the pervasiveness of the Ecole. One might go further, and say that this system is not only the best, but that it is perhaps the only one that deserves a title implying doctrine and co-ordination.

Since the really simple methods of France are obscured by the jargon of graduates, a word of explanation may not be amiss. The instruction is, first of all, competitive; all the students of any grade work upon the same programmes and under identical limitations of time. The conditions for the imaginary buildings planned and designed by the students are, as near as may be, those of actual practice.

For example, no student is told to design a porter's lodge, but one with stipulated accommodations, fixed entrances, upon land of a certain lie, in connection with a mansion of a certain style. Promotion depends upon achieving a satisfactory rank in a determined number of these competitions, and the aspirant not merely gains the advantage of superior criticisms of his own design, but profits even more by studying in the periodical exhibitions the solutions of the problem offered by his fellows. Awards of excellence are based largely on merit of plan, upon design in relation thereto, and strict conformity to the programme is required. No attention is paid to prettiness of rendering, and rather little regard is given to novel or ingenious handling of ornamentation. The eminently practical nature of the plan explains at once its attractiveness to American students and their success when once they have passed the rigorous barriers of the Ecole. It is this system that its former pupils have transported to New York, and wish to establish universally.

The scheme, in general, contemplates a central school, superseding that of the Society of Beaux-Arts Architects, managed and supported jointly by the architectural schools of the country. This central body would fix the programmes for the entire federation, and would judge the drawings wherever made. It would thus control the practical instruction in designing, and draughting-rooms outside of New York, whether in university departments or elsewhere, would virtually become branches of the central school. Reciprocally, the existing architectural schools would be asked to open their archæological and scientific courses to members of the classes in design, and to grant them diplomas upon examination. Such in brief is the project.

Its accomplishment must probably await a better understanding between the Beaux-Arts Architects and the faculties and alumni of our university schools of architecture. The archæologising tendency in the university schools, which is unaffectedly scorned by the Paris contingent, is a necessary condition. In the absence of great monuments we cannot count upon the student inhaling tradition and inspiration with the air he breathes, and must fall back upon the admittedly poor substitute of books and photographs. On the other hand, our architectural faculties have been by no means proof against academic mildew, and have been too slow to recognise the advantages offered by the training of the Ecole. Some kind of reconciliation between the two is evidently desirable.

The classes of the Society of Beaux-Arts Architects were established with the very practical end of supplying trained draughtsmen, and the hope of turning out architects also. For this reason the courses were open to all, without examination or other restriction. It is difficult to see how federation can be made with schools requiring for admission examinations or a college degree. It is probably true that any school of applied art must languish in academic surroundings. Architecture has fared only a shade better under such conditions than "Practical Politics," which was for a time assiduously cultivated at the University of Chicago. Hence a strong architectural school, managed by practising architects, and free from university entanglements, would be welcome. But, frankly, we do not see how the Society of Beaux-Arts Architects can expect much aid from the universities in founding such a school. An increasing interchange of courtesies between the more enterprising architectural schools and the New York *ateliers* there may undoubtedly be. To expect more in the near future requires a somewhat unrestrained enthusiasm.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

AT the rooms of the above Society, on Thursday the 25th ult., Mr. A. Needham Wilson read a paper on "The Architecture of Southern France." Mr. H. S. Chorley was in the chair. The lecturer said :—"I propose to deal with the influences which governed the production and development of architecture after the withdrawal of Roman domination in the south of France, and particularly Provence. A student visiting the south of France for the first time cannot fail to be struck by the examples of Romanesque architecture more than by anything else, and in Provence he will be bewildered by the impression that no intermediate styles seem to bridge the gap between the degenerate Romanesque and the Late Gothic, or even the Renaissance. To deal with the subject as a whole would hardly come within the scope of a single paper, and with your permission I will deal in particular with the Romanesque in Provence. May I be pardoned if I dip briefly into history? but a rough outline is necessary on which to base the other aspects of the subject." The lecturer then dealt with the occupation of Provence by the Romans, the influence of the Franks, and the rapid advancement of learning and arts under the Emperor Charlemagne, and the permanent state of civil war. "There remains the ecclesiastical aspect. I will not stay to dwell upon the part that Arles has played in the history of the Church, on Constantine, or on the Church Councils; rather let me emphasise the noble part played by the Church during the horrible centuries which preceded the Renaissance of the eleventh century. Having now sketched the conditions and influences under which these isolated religious communities existed, we must glance at the architecture which they produced. As Viollet le Duc says, the 'fragments of architecture which remain to us of the sixth and seventh centuries are but pale reflections of the Roman art, often of débris thrown together haphazard by unskilful workmen executing masonry and brickwork with much difficulty.' In Provence as well as in its vicinity many buildings appear to incorporate Roman fragments; we are told that these are slavish copies, but it would be wrong to jump to too hasty a conclusion on the point. There are some typical examples, as the porches at Notre Dame, at Avignon, and at Aix en Provence, which appear to bear the stamp of Roman work, but a little consideration will tell us that they are but slavish copies; but coming nearer we find a delicacy of execution which seems to indicate that they are either genuine Roman fragments or copies by craftsmen who were certainly not ignorant of traditional training; also the positions occupied by these fragments frequently indicate an incongruity of treatment quite incompatible with original work. One of the first problems which confronted the Provençals was the covering of their buildings. The country produced no suitable timber, but stone in plenty. The school of Provence contented itself with the simple pointed barrel vault over narrow low naves only, trusting to the massiveness of the walls to resist the thrust, or, where aisles were adopted, formed a kind of continuous flying buttress, and raising the wall over the arcades sufficiently to be pierced with windows." The lecture was illustrated by numerous sketches. Mr. Butler Wilson, in proposing a vote of thanks to the lecturer, said that he noted with pleasure the individuality of the architecture of Provence, and the way they had overcome the difficulties by purely local materials. Mr. A. E. Kirk seconded, and Messrs. Chorley and Hope supported the resolution, which was carried.

GLASGOW FINE ARTS INSTITUTE.

THE annual report of the Royal Glasgow Institute of the Fine Arts states that during the past year, a period which embraced the first complete year's working in the present galleries, a deficit of 75*l.* 12*s.* 9*d.* had been incurred. This was due to a considerable portion of some unusual but necessary expenditure, largely on work of a permanent character, being defrayed out of revenue instead of being charged to capital or carried to suspense account. The Council, however, were convinced that the immediate prospects of the Institute were altogether favourable, and, in the possession of that knowledge, had voted the sum of 100*l.* to assist in the purchase of sculpture supplementary to the two amounts of 500*l.* each allocated for that purpose by the Corporation and an anonymous donor. The cost of the exhibition was considerably less than the preceding year, but there was an increase in the ordinary regular expenditure. This was difficult to avoid, having regard to the extended character of the work which required to be undertaken in connection with the more spacious premises now at the Council's disposal and the larger enterprises which the new venture had demanded. There had been an increase in the membership, thirteen new subscribers having been enrolled during the past year. The report was adopted. The chairman, Mr. Simons, proposed the re-election of Sir John Stirling-Maxwell as chairman. Messrs. J. G. A. A. Baird, J. Parker Smith, Hugh Brown and Joseph Henderson were elected vice-presidents. Lord Provost Bilsland proposed the re-election of Mr. Simons as chairman of the Council for the ensuing year. Mr. Simons said that there were reasons, not personal to himself, which made him decline to be re-nominated. There were things in connection with the Institute which might not and could not be done with impunity. The Lord Provost and Mr. Kay expressed surprise at Mr. Simon's decision, and the latter said he thought any feeling that there might be underground currents at work ought to be removed from Mr. Simon's mind. Mr. Simons ultimately agreed to accept office until a successor could be found. Messrs. Arthur Kay and William Greig were re-elected hon. treasurer and hon. secretary respectively, and the following were elected members of the Council:—Messrs. James Morris Henderson, J. G. Laing, J. M. Crawford and W. Gibson.

CRACKS ON CONCRETE SURFACES.

THE appearance of hair cracks on a concrete surface is a disfigurement, the cause and remedy for which have not received the proper study that so important a subject justifies. The cause of this trouble has been investigated from time to time, but heretofore the conclusions drawn have been very incomplete.

Hair cracks, being entirely on the surface, says Mr. Albert Moyer in the *Engineering Record*, do not indicate a weakness in the concrete; in most instances they are not greater in depth or width than that of a coarse hair. A rough-surface concrete does not display these objectionable features to as great an extent as does an even-trowled face, on which surface they are very apparent, especially in damp or wet weather. Often these cracks do not appear for several weeks or months after the concrete has set hard.

A practical worker in concrete is not as much concerned with the cause of hair cracks and crazing as he is interested in their effect and remedy. It often requires investigation as to cause to arrive at a correct solution of the trouble, and thus apply permanent remedy, otherwise we would be simply dealing with symptoms. Research conducted along theoretical lines seldom brings practical results, therefore the writer will endeavour to eliminate theory as far as possible. His investigation has been founded on the reverse practice—that of noting and observing very carefully the practical results both as to effect and remedy, and then endeavouring to explain these conclusions by theory.

It has been known for some time that very wet concrete s more apt to craze and show these undesirable hair cracks than dry concrete. Dry concrete is objectionable from the standpoint of strength and density, and therefore its use cannot be advocated simply because hair cracks are to some extent avoided. Investigation and practical demonstration leave no doubt of the fact that in wet concrete a portion of the flour or very finest particles of the cement is carried to the surface by the action of the excess water which is being absorbed by the atmosphere. This excess water is to a great extent drawn from the interior of the stone to the exterior, carrying with it the finer particles which, being deposited on the surface, form a richer mortar than is contained in the body of the concrete. Under certain conditions these fine particles deposited on the surface practically form a coating of neat cement.

Neat cement or the richer mortars are found to be much more liable to crazing than mortars containing a larger proportion of sand or finely crushed stone. This is particularly true in the manufacture of cement stone by the use of sand moulds in which the mixture is poured very wet. It has also been noted that, when the stone is properly seasoned by keeping the surface covered with a thick layer of very wet sand, or when the stone is immersed entirely and for some time in water, the trouble has been overcome almost entirely. These hair or map cracks would be entirely eliminated for all time if the stone were immersed in water for a sufficient period to allow the complete crystallisation of the cement. This, however, is not always permitted by convenience or economy.

The crazing of neat cement is apparent in test pats for laboratory purposes, when these pats are exposed and allowed to set and harden in air, but if they are protected in a moist closet and afterward immersed in water for a period of at least twenty-eight days, no hair cracks or crazing will result.

A careful examination of these cracks led to the conclusion that they are due entirely to a contraction of the surface, the same contraction not taking place in the body of the concrete.

Experiments made by Professor Swain and Professor Bauschinger demonstrate that neat cement contracts when set and hardened in air. This applies to all brands of high-grade Portland cement. Further tests demonstrate that this contraction increases with age up to a certain period. The same authorities demonstrate that a mortar made of one part Portland cement and three parts sand, hardened in air, shows contraction, but less in proportion than the neat cement. It is obvious that this bears out the practical investigations regarding concrete and cement stone which have been described above; that is, hair cracks are due to contraction of the surface, and that this contraction is due to the fact that the concrete has been hardened in air.

The following results were obtained by investigations made by the same authorities and others showing the effects of neat cement and mortar when hardened under water. The test pats or cubes of neat cement and mortar, after the final set, were immersed and kept under water for a considerable period of time. The results prove that neat cement when hardened under water shows a slight expansion, while mortar composed of one part Portland cement and three parts sand shows an expansion, but less in proportion than the neat cement.

Reducing these conclusions to figures and taking the average results obtained by various authorities, figuring the expansion and contraction in percentage, the writer finds the following results:—

Neat Portland cement hardened in air at the end of sixteen weeks shows a 0.15 per cent. contraction.

One to three mortar hardened in air at the end of sixteen weeks shows a 0.05 per cent. contraction.

Neat Portland cement hardened under water at the end of sixteen weeks shows an expansion of 0.05 per cent.

One to three mortar hardened under water at the end of sixteen weeks shows an expansion of 0.015 per cent.

Without going further into the matter of figures it is safe to state that the expansion and contraction is for less shorter periods than sixteen weeks and that the percentage will be a trifle greater if carried beyond sixteen weeks or up to six months or a year.

We can, therefore, conclude that in a rich mortar there is more neat Portland cement on the face, and, therefore, a greater percentage of contraction of the surface; also that a less rich mortar will show a proportionately less percentage of contraction, and that if the concrete were kept wet and protected (which is equivalent to hardening under water), hair cracks and crazing would be avoided.

In the past this trouble has been partially overcome by brushing off the surface of the concrete or cement stone with a stiff steel brush or by scrubbing the surface with a cement brick and wet sand, thus partially removing what might be termed a neat cement face. It has been found, however, that this does not entirely overcome the trouble, the remedy proving but temporary, the cracks appearing several months afterward. The brushing or scrubbing is merely an assistance; the real remedy lies in keeping the surface thoroughly and continuously wet as long as possible. It is unfortunate that this rule is seldom observed, and that in its non-observance good results are sometimes obtained. The worker in cement is thus influenced to disregard a matter of considerable importance in concrete construction. That good results are obtained from a disregard of these principles is largely a matter of luck. If the weather be damp for a number of days after the concrete has set, the object has been partially brought about by nature; then, again, the surface may have been so placed as to escape exposure from the wind or sun, which would tend to dry it, and was kept wet by the excess of water in the concrete. It is desirable to have the surface of the concrete or cement stone as near the same texture as the body of the concrete.

The only permanent remedy which will eliminate entirely these objectionable features is the removal of as much of this excess of neat cement collected on the surface as is possible as soon as the moulds are taken down. The surface should then be kept wet by the application of wet sand sprinkled from time to time with water, or hanging wet cloths over the perpendicular surfaces, keeping the exterior wet and the cloths wet by sprinkling or by any other method which will accomplish this result. The surface should be kept continuously wet for a sufficient length of time to enable the cement to attain ultimate crystallisation. By so doing the effect is practically the same as that of hardening under water. It is reasonable to conclude that if so treated the surface will slightly expand, but not to a greater extent than the body of the concrete which is already wet.

It is not amiss to bring this whole subject as prominently as possible before those having charge of concrete construction, endeavouring to impress upon them the necessity of keeping concrete protected and thoroughly and continuously wet for as long a period as economy will permit.

SHEFFIELD SOCIETY OF ARCHITECTS.

A PAPER was read before the Sheffield Society of Architects and Surveyors on "English Renaissance, 1650 to 1700," by Mr. C. F. Innocent. He first described the smaller Sheffield buildings of the period. He showed that they were still in their details Jacobean, with mullioned and transomed windows and label moulds and strings. It was only in a certain stiffness and formality in the arrangement of the parts that there was a difference from the work of the preceding period. Walkley Old Hall is an example. In remote districts, such as the Little Don Valley, Gothic details still lingered on, even until the early years of the eighteenth century. The porch of Midhope Church is an example of this. There is thus less than half a century in this district between the last of the Gothic work and the first building of the Gothic revival, which is Ravenfield Church, designed in 1756 by John Carr, of York. During this period English garden design attained its greatest perfection under the influence of the great French garden designer, Le Notre, and the period is interesting as being that of the transition from the formal to the landscape school of gardening. The walled-in gardens and courtyards of Eyam and Derwent Halls are examples of the earlier idea, while the spacious gardens at Sprotborough, though the original plan has been somewhat modified, still show with their terraces and "vistas" the influence of Le Notre. Sprotborough Hall was built in the reign of Charles II., and is a fine example of a house of the Restoration period. The great houses of the neighbourhood were naturally much purer in their style than the smaller, and Chatsworth House, designed by Talman, the rival of Wren, and the most important building erected in the neighbourhood during the period, is pure Renaissance, and exhibits no trace of Jacobean design. It is difficult to realise that Eyam Hall is only a few years earlier in date than Chatsworth, but such is the case. At the end of the seventeenth century the people of Sheffield indulged in a new town hall. The accounts have been preserved by the town trustees, and the cost of the building appears to have been about 300*l*. The hall stood at the church gates, across what is now the bottom of Church Street, and was pulled down a century ago. The doorway now preserved in Weston Park has been supposed, without any evidence, to have been the entrance of the hall. In the Sheffield district during this period the use of timberwork for outer walls was given up; and in the South, where good building stone was not so plentiful, great advances in the use of brickwork were made under the influence of Sir Christopher Wren, who was the great architect of the period, and who continued in the active practice of his art for sixty years.

NEWPORT BOROUGH ASYLUM.

THE new asylum which was opened by the Mayor of Newport on January 25 is situated at Caerleon on a pleasant site commanding good views of the surrounding country. The wards accommodate 368 patients, 184 of either sex, while the administrative offices are designed for 500, the number to be ultimately provided for.

The main building is arranged with the administrative offices placed centrally, and the patients' blocks, of which there are three for each sex, on either side.

The blocks for patients are two storeys in height, the ones nearest the centre being allotted to sick and infirm cases and consisting of a ward for thirty patients on each floor. The next block is designed for thirty-five epileptic and thirty-five quiet chronic cases, the epileptics being accommodated in a ward on the ground floor and the quiet chronics in a similar ward on the first floor. Next this is the recent and acute block, comprising a ward for twenty-seven patients on either floor.

The future extensions will consist of a block beyond the recent and acute on each side for working patients, that on the female side being contiguous to the laundry, and that on the male side adjacent to the workshops. The asylum is so designed that these additional blocks may be added without in any way disturbing the patients or interfering with the working of the institution.

The whole of the wards are entirely self-contained, and are planned with the special requirements needed for the respective classes of patients. The day-rooms have cheerful and uninterrupted outlooks, and they, together with the dormitories, are efficiently lighted and ventilated. The sanitary arrangements are placed in spurs at the backs of the wards, from which they are separated by cross-ventilated lobbies. Staircases of artificial stone are placed at the extreme end of each block, thus affording two means of exit from every portion of the wards.

The wards are designed on the continuous principle, which not only admits of economy in working, but is also the most convenient for supervision.

The official block is placed centrally to the south of the administrative offices. The great fall in the ground from back to front would not admit of this block being placed to the north, the position recommended by the Commissioners in Lunacy. It is a two-storey building containing on the ground floor committee-room, receiving-room, photographic studio, &c. The upper floor is allotted to the assistant medical officer and the matron, their quarters being quite separate and reached by different staircases.

Immediately at the rear of the official block are the visiting-rooms, chaplain's-room and dispensary.

The dining and recreation hall which is 74 feet long by 40 feet wide, and has a stage and dressing-rooms attached, is placed to the south of the kitchen offices. The hall is conveniently arranged for service from the kitchen and for entertaining purposes, and has separate entrances for males and females.

The kitchen offices comprise kitchen, scullery, vegetable scullery, larders, pantry, dairy, &c., with separate arrangements for serving to each side of the building.

To the north of the kitchen offices are the steward's stores. These contain the main store, bread-rooms, clerk's office and meat store. As in the kitchen, separate arrangements are provided for serving stores to each side of the building. The bakery is placed to the west of the steward's stores and in communication with same for the delivery of flour, &c.

The laundry, which is at the rear on the female side, consists of a general laundry, washhouse, drying-room, receiving and distributing rooms, and a foul linen washhouse with separate drying arrangements.

Adjacent to the laundry a workroom block is provided, containing on the ground floor a needlework room and matron's store, and on the upper floor bedrooms for the laundry maids.

On the male side, in close proximity to the site for the future block for working patients, are the workshops. They comprise shops for shoemakers, tailors, upholsterers, carpenters, plumbers, painters and glaziers, bricklayers' shed, foreman's office, &c.

The boiler-house block is placed to the east of the workshops, and contains, in addition to the boiler-house, coal stores, electric-plant room, battery-room, pump-room. engineer's shop, office, &c.

The blocks for attendants and nurses are placed in the usual position east and west of the administrative offices. They include the necessary mess and recreation-rooms on the ground-floor, the upper floor being allotted to night-nurses and domestics on the female side and to night attendants on the male side.

In addition to a bath in each ward, a general bathhouse is provided on either side with the necessary dressing-rooms, &c., attached.

The buildings are lighted throughout by electricity, the current being generated in the institution. A complete system of electric fire-alarms, tell-tales, bells and telephones is installed throughout the buildings.

The water is from the Corporation supply, storage cisterns being provided in each section of the building sufficient for one day's requirements.

In addition to the two means of exit provided from each ward previously mentioned, ample precautions have been taken in case of fire, both the interior and exterior of the building being commanded by hydrants of the latest type.

The water mains, electric cables, &c., within the buildings are laid in subways, and the whole of the engineering work has been so designed as to obviate the necessity of the engineering staff passing through any part occupied by patients to obtain access to same.

The following detached buildings are provided in addition to the main asylum :— Chapel, mortuary, farm buildings, six cottages for staff, two entrance-lodges, cottage for bailiff, garden buildings. The committee have purchased houses already existing on the estate for the medical superintendent and the clerk and storekeeper. The contractors for the buildings were Messrs. J. Linton & Co., of Newport; for the electric plant Messrs. Bertram Thomas, of Manchester; and for the electric wiring and fittings, fire-alarms, telephones, &c., Messrs. Lowdon Bros. & Co., of Dundee, while Mr. W. B. Partington acted as clerk of the works.

ARCHITECTURAL CENSORSHIP.

A MEETING of the Architectural Craftsmen's Society was held last Friday in the Technical College, Glasgow. Mr. J. Campbell Reid read a paper on "Architectural Censorship." Mr. Reid showed by numerous lantern views architectural mistakes, due to the want of proper supervision of architectural schemes, with reference to the relation of new buildings to their surroundings, which were often of real architectural or historical value, and were thrown out of scale by the new structures. The lecturer advocated the appointment of small committees for each district of large towns, who would form an Architectural Court, before whom all plans for proposed buildings would be submitted after having been sanctioned by the Dean of Guild Court. These committees would refer any schemes opposed to architectural principles to the censor, who would be an architect or artist of repute appointed by the Government, and whose decision would be final. Mr. Reid also advocated the laying out of new streets by architects, who would introduce more varied lines than those laid down by engineers, and thus relieve the monotony of many of our thoroughfares.

ST. LOUIS EXHIBITION.

A LONG period is always necessary to produce a report on the British section of an international exhibition in another country. The St. Louis Exhibition was held in 1904, but the report of the British Commissioners did not appear until last week. It states that the decoration of the British courts was arranged in a manner different from that which had been adopted in previous international exhibitions abroad. It had been the custom to leave to each exhibitor the decoration of the space allotted to him, giving him liberty to put up such façades as he deemed desirable, subject only to the limitations of height and other conditions imposed by the regulations made by the exhibition authorities. Experience showed that the result left much to be desired. In the case of the St. Louis Exhibition, the executive committee decided to enclose the whole of the British space in each building with an ornamental façade or enclosure entered through archways inscribed with the words "Great Britain and Ireland." The design adopted for the façade and archways was uniform throughout the exhibition, so that visitors could at once recognise the spaces occupied by Great Britain. The façade was decorated with groups of the British national flags arranged at suitable intervals. The result of the scheme was eminently successful, and it was well worth the additional expense involved in carrying it out. The whole work of erecting the façade and of providing screens, flooring and other necessary details of construction was carried out by Messrs. George Trollope & Sons, of London, who executed the work in a very satisfactory manner, and completed it by April 30, notwithstanding considerable difficulties, in particular those due to the state of the labour market at St. Louis and the frequent strikes of the workmen.

On account of the large number of collective exhibits organised by the Royal Commission, it was necessary to provide show-cases in considerable quantities. To have had these made in England and sent to St. Louis would have entailed heavy cost for transport, and as it was found that they could be manufactured locally at a reasonable rate, a contract was made for their construction at St. Louis. The result was satisfactory, and in many instances it was possible to hire plate-glass for the cases instead of purchasing it, thus effecting a considerable economy. After the close of the exhibition the majority of the show-cases were disposed of locally, though at a considerable depreciation on the price originally paid.

The storage of the empty packing-cases during the period of an exhibition is always an important consideration. It is necessary that they should be removed as soon as possible from the exhibition buildings after the goods have been unpacked, that they should be safely stored during the exhibition period, and promptly returned for repacking at its close. At St. Louis a concession was given by the exhibition authorities to the General Service Company, who were allowed to erect warehouses in a remote part of the grounds, and to charge a fixed rate for removing and returning cases and storing them until required. In order to insure the proper storing of the British cases, an arrangement was made with this company whereby a definite portion of a warehouse was hired for the exclusive storage of British cases. This saved much time and trouble at the close of the exhibition. On the whole the system was fairly satisfactory, although in certain particulars work was unnecessarily thrown on the staff of the Royal Commission.

A principal cause of delay both in the original installation, and still more in the removal of exhibits after the close, was due to the United States Custom House regulations. By the Act of Congress authorising the exhibition it was enacted that articles sent for exhibition should be admitted free of duty provided that they were exported, but this, though apparently a simple matter, was seriously complicated by the elaborate system of checks adopted by the United States Custom House authorities with a view to insure that nothing should remain in the United States without paying duty. Every article, however small, had to be checked and scheduled by a Custom House officer before being installed for exhibition, and rechecked before it was allowed to be packed for return to England. In many cases this caused weeks of delay in repacking, especially as the amount of work was greater than the Custom House staff could manage. Under United States laws articles presented to certain public institutions are exempted from duty. But in the case of articles so presented by the Royal Commission, or by foreign exhibitors, the formalities to be gone through were very complicated. Articles sold for delivery at the end of the exhibition were, of course, charged with duty, as were also articles stolen during the exhibition. But of these latter there were fortunately few so far as British exhibits were concerned.

As a large number of the British exhibits were collective, and the exhibitors had no representative of their own at St. Louis, the Royal Commission undertook the sale of certain articles for delivery at the close of the exhibition. The total value of the sales effected was as follows:—

Department of art	£7,444	1	1
Department of manufactures	392	3	3
Other departments	159	5	9
Total . . .	£7,995	10	1

Out of the amount received from purchasers the cost of Customs duties and other expenses were paid, and the balance was handed over to the exhibitor. The sales account was kept completely separate from the general account of the Royal Commission. The Custom House regulations of the United States made the business of sales very complicated. The catalogue of the British section was prepared in London, and was ready for issue by the opening day. There was a separate catalogue for each department. These, bound together, formed the complete catalogue. The system of departmental catalogues was found very convenient, and they had a readier sale than the more bulky volumes of the complete catalogue. The catalogue for which there was the largest demand was that of Her Majesty Queen Victoria's Jubilee presents, 13,482 copies having been sold during the exhibition period. The timely issue of the British catalogue was found to be particularly convenient, owing to the fact that the American official catalogue was late in publication. A preliminary edition of this was issued soon after the exhibition opened, but it required much revision, and the complete edition was not ready before the first week in November.

The meeting of the Jury of Awards is always an important episode in an international exhibition. According to the regulations for the St. Louis Exhibition, the jury should have assembled on June 1, 1904, but as the weather in St. Louis during the summer is usually very hot, and as the installation of many exhibits was not really completed until long after the opening day, it was decided to postpone the date of meeting to September 1.

There were three classes of juries, *i.e.* group juries, of which there were 144; department juries, of which there were fifteen; and a superior jury. The group juries were in most instances composed of Americans and foreigners in equal numbers. Each jury elected its chairman and vice-chairman, of whom generally the chairman was American and the other foreign. The department juries consisted of the chairman and vice-chairman of each of the group juries, with two additional American members. As in the case of the group juries, each department jury elected its chairman and vice-chairman, of whom the one was American and the other foreign. The last, or superior jury, of which the President of the Exhibition was president, was composed of the director of exhibits, a citizen of the United States nominated by the National Commission, the chiefs of all departments, the chairmen and vice-chairmen of the department juries, and twelve of the foreign Commissioners-General, representing the countries who had sent the most important foreign exhibits. The superior jury consisted in all of thirty-four American and twenty-seven foreign representatives. There were four vice-presidents, of whom two were American and two foreign.

The British group jurors, of whom there were seventeen, were selected by the committees of the Royal Commission dealing with the different subjects, and were appointed by the executive committees. That the selections were satisfactory was proved by the fact that in eleven instances the British juror was elected as chairman or vice-chairman of the group jury, and thus became a member of the department jury.

Two were again elected as vice-chairmen of the department juries, and became members of the superior jury, upon which Great Britain had three representatives, *i.e.* the two jurors and the Commissioner-General, who was a member *ex officio.*

The awards were of four orders of merit, as follows:—Grand prizes, gold medals, silver medals, bronze medals. All exhibits were examined by the group juries, who recommended the awards to be given and forwarded the lists to the department juries for consideration. The department juries approved or revised the recommendations of the group juries, and submitted their decision to the superior jury, whose decision was final after review of every case in which exhibitors asked for reconsideration. As by the regulations of the exhibition the superior jury had to terminate its business by October 15, 1904, and as a certain number of appeals were not settled by that date, these were referred to a standing committee consisting of the president and vice-presidents of the superior jury, who were empowered to continue until all business was completed. The work of the juries was carried out in a very satisfactory manner, and British exhibitors were quite content with the decisions. In a few cases appeals were made, and these were fairly and fully considered by the superior jury.

The British exhibits in art, education and social economy were withdrawn from competition with the sanction of our executive committee, and in the other departments of the exhibition in which British exhibits entered into competition the number of awards was as follows:—To exhibitors—Grand prizes, 126; gold medals, 204; silver medals, 129; bronze medals, 77. To collaborators—Grand prizes, 7; gold medals, 43; silver medals, 38; bronze medals, 54.

TESSERÆ.

Marble in Roman Houses.

It was not till the latter times of the Republic, when wealth had been acquired by conquests in the East, that houses of any splendour began to be built in Rome, but it then became the fashion not only to build houses of an immense size, but also to adorn them with columns, paintings, statues and costly works of art. M. Lepidus, who was consul B.C. 78, was the first who introduced Numidian marble into Rome for the purpose of paving the threshold of his house, but the fashion of building magnificent houses increased so rapidly that the house of Lepidus, which in his consulship was the first in Rome, was thirty-five years later not the hundredth. Lucullus especially surpassed all his contemporaries in the magnificence of his houses and the splendour of their decorations. Marble columns were first introduced into private houses by the orator L. Crassus, but they did not exceed 12 feet in height and were only six in number. He was, however, soon surpassed by M. Scaurus, who placed in his atrium columns of black marble called Lucullean, 38 feet high, and of such immense weight that the contractor of the sewers took security for any injury that might be done to the sewers in consequence of the columns being carried along the streets. The Romans were exceedingly partial to marble for the decoration of their houses. Mamurra, who was Cæsar's praefectus fabrûm in Gaul, set the example of lining his room with slabs of marble. Some idea may be formed of the size and magnificence of the houses of the Roman nobles during the later times of the Republic by the price which they fetched. The consul Messalla bought the house of Autronius for 3,700 sestertia (nearly 33,000*l.*), and Cicero the house of Crassus, on the Palatine, for 3,500 sestertia (nearly 31,000*l.*). The house of Publius Clodius, whom Milo killed, cost 14,800 sestertia (about 131,000*l.*); and the Tusculan villa of Scaurus was fitted up with such magnificence that when it was burnt by his slaves he lost 100,000 sestertia, upwards of 885,000*l.* The house rent which persons in poor circumstances usually paid at Rome was about 2,000 sesterces, between 17*l.* and 18*l.* It was brought as a charge of extravagance against Caelius that he paid 30 sestertia (about 266*l.*) for the rent of his house.

Natural Swags.

The art of weaving wreaths, garlands and festoons in Greece and Rome employed a distinct class of persons who endeavoured to combine all the most beautiful varieties of leaves, of flowers and of fruits so as to blend their forms, colours and scents in the most agreeable manner. At Athens there was a market for the manufacture and sale of this class of productions, the work being principally performed by women and girls. When a priest was preparing a sacrifice he often appeared with a festoon intended to be placed on the door of the temple, on the front of the altar or upon the head of the victim. Thus in the Iliad, Chryses, besides the gilded sceptre which denoted his office and authority, carries a garland in honour of Apollo, which was probably wound about the sceptre. A bas-relief in the collection of antiques at Ince-Blundell represents a priestess carrying in her two hands a festoon to suspend upon the circular temple which is seen in the distance. As the festoons remained on the temples long after their freshness had departed they became very combustible. The Temple of Juno at Argos was destroyed in consequence of their being set on fire. The garlands on funereal monuments hung there for a year, and were then renewed. The funeral pile was also decorated in a similar manner, but with an appropriate choice of plants and flowers. Festoons were placed upon the door-posts of private houses in token of joy and affection, more especially on occasion of a wedding. They were hung about a palace in compliment to the wealthy possessor, and on occasions of general rejoicing the streets of a city were sometimes enlivened with these splendid and tasteful decorations. Smaller garlands or crowns were worn by persons on the head or round the neck. The fashion of wearing such garlands suspended from the neck was adopted by the early Christians.

Society of British Artists.

The Society of British Artists was established in 1823 with the object of the erection of an extensive range of galleries for the annual exhibition and sale of the works of living artists of the United Kingdom. For this purpose a house was built in Suffolk Street, Pall Mall East. The first exhibition took place in 1824. It consisted of oil and water-colour paintings, sculpture and engravings, and was enriched with the productions of Hofland, Haydon, Heaphy, Linton, Glover, Martin, Blake, Simpson, &c. In purchases and commissions the first exhibition produced nearly 4,000*l.*, whilst the receipts at the doors greatly exceeded the demands of an unavoidably expensive year. The following were the classes into which the donors and subscribers to the Society of British Artists were divided:—Class 1.—A donor of 100 guineas to be entitled to a transferable free admission ticket to the gallery, for an unlimited number of friends for life. Class 2.—A donor of 50 guineas to be entitled to a transferable free admission ticket for self and two friends for life. Class 3.—A donor of 10 guineas to be entitled to a free admission for self and friend for life. Class 4.—A donor of one guinea per annum to be entitled to a free admission for the season for self and friend. Class 5.—Amateur donors of 20 guineas or upwards may become honorary members. Class 6.—A subscriber or lender of 100 guineas to be entitled to receive an annual dividend of 5 per cent. and a free admission for self and friend for life. Class 7.—A subscriber or lender of 50 guineas to be entitled to receive an annual dividend at the rate of 5 per cent. and a free admission for life. Class 8.—Subscribers being members of the Society to be entitled to receive an annual dividend at the rate of 5 per cent. on whatever sum they may subscribe. All the interest to be paid from the profits of the Society.

A Joint Committee of the Ulster Society of Architects, the Belfast Art Society, and the Ulster Arts Club, propose holding in the Municipal Art Gallery, Belfast, an exhibition of pictures. Through the courtesy of Mr. Hugh P. Lane the committee will be able to obtain on loan from private owners several pictures by Watts and parts of the "Durand-Ruel," "Staats Forbes," and "Lane" collections, including works by Whistler, Steer, Corot, Courbet, Fantin, and Puvis de Chavannes.

GENERAL.

The Liverpool Academy of Arts on Friday elected Professor Reilly and Mr. G. Chowne full members. Out of sixteen candidates for associateship five were elected.

The Manchester Art Gallery Committee propose to hold an exhibition of water-colour drawings during the months of April, May and June of this year. The exhibition will be opened on Wednesday, April 11, and closed on Saturday, June 30.

The Dundee Lunacy Board have instructed Mr. T. M. Cappon to prepare plans of the buildings at the Westgreen Asylum. The commission will be 50 guineas.

A Committee, comprising Sir Henry De Villiers, Sir John Graham, Adv. Searle and Attorney C. H. Van Zyl, has been appointed to act in conjunction with Mr. Mervyn Macartney in connection with his work as assessor in the competition for the law courts to be erected in Cape Town.

The Late Mr. Capper Pass has bequeathed the sum of 1,000*l.* to the Bristol Art Gallery, to be expended on purchasing the works of local artists.

The Council of the Edinburgh Architectural Association have resolved to write to the Greenock School Board protesting against the conditions issued by them relating to the competitive plans for the new school at Cartsburn. It is considered that if the conditions are adhered to it would be derogatory to any architect to compete.

The Royal Scottish Society of Painters in Water Colours have elected the following officers:—President, Sir Francis Powell, LL.D.; vice-president, Wm. M'Taggart, R.S.A.; deputy-president, Wm. Young; treasurer, Wm. Young; council—James G. Laing, Patrick Downie, R. M. G. Coventry, C. J. Lauder, John P. Downie and R. Clouston Young representing the West, and Ewan Geddes, G. Nasmyth Langlands, R. Gemmell Hutchinson, Miss C. P. Ross, James Paterson and James Cadenhead, representing the East.

The Senate of Glasgow University will confer the honorary degree of Doctor of Laws (LL.D.) on Sir James Guthrie, President of the Royal Scottish Academy, and M. Auguste Rodin, president of the International Society of Painters, Sculptors and Engravers.

Mr. Roger Fry, of the New English Art Club, has accepted the appointment of curator of the Metropolitan Museum of Art in New York.

Applications for particulars concerning a competition for elementary schools in Wrexham have been received from over 200 architects.

At the last Meeting of the Architectural Association of Ireland Mr. R. M. Butler read a paper on "The Housing of the Irish Rural Labourers." He described the procedure adopted, and stated that no less than 20,000 cottages have during the last twenty-three years been built in Ireland, at a total cost of between 3,000,000*l.* and 4,000,000*l.* He also remarked on the untrained and unscrupulous architects and contractors employed by many councils, and urged the registration of architects and the "starring" of bad contractors as a remedy.

The Peak District and Northern Counties Footpaths Preservation Society, in their annual report, record that Mr. Gilson Martin, J.P., the Duke of Devonshire's agent, was interviewed with respect to the closing of the footpath leading past the Druid's Circle on the moors near Eyam. The agent denied that the footpath was a public one, and suggested that if the Society pressed the matter the Duke of Devonshire would consider the advisability of closing Chatsworth, having only insufficient evidence that the footpath was a public one the Council did not take any further steps.

A Tablet given by his Honour Judge William Evans in memory of Richard Wilson, R.A., the landscape painter, has been unveiled in the parish church of Penegoes, the village where Wilson was born.

A New Theatre, capable of accommodating 1,500 people, is to be erected shortly at the back of the Castle Hotel, Queen Street, Scarborough. The plans have been approved by the Corporation, and the building is to be of fireproof construction. Messrs. Davis & Baker, Scarborough, are the architects.

For the new Central Library at St. Pancras the following architects have been selected for a limited competition:—Messrs. Maurice B. Adams, J. S. Gibson, Mallows & Cross, Russell & Cooper, Wills & Anderson, and E. Wimperis.

The Liverpool City Council have adopted the recommendations of the library, museum and arts committee that the pictures *The Captive Butterfly*, by E. A. Hornel, and *En Conseil de Famille*, by L. R. Garrido, be purchased from the Autumn Exhibition for the Permanent Collection, and that the application of the Berlin Photographic Company to reproduce the picture *A Summer Night*, by Albert Moore, and for the loan of the picture for a period of not exceeding three months, on payment of a fee of 100*l.*, be granted.

M. Harpignies, the French painter, has offered to the Government a series of his drawings to be added to the collection in the Luxembourg, which was lately formed. Another series by him will be presented to the city of Paris.

Contracts have been settled by the Bridlington Corporation for a new pavilion to hold 3,500 persons, designed by Messrs. Mangnall & Littlewoods, architects, Manchester The building will have an inclined floor, gallery round three sides communicating with outside balcony, and proscenium with stage. There will also be a large café communicating with the pavilion.

A Number of ancient dwelling-houses are to be demolished at Bermondsey. The houses have fixed in their walls a number of gate hooks, which are the only remaining relics of the old Abbey of Bermondsey, which was founded in 1081 and pulled down at the Dissolution of 1539.

The Trustees of the late Mr. John Clark, advocate, Aberdeen, have decided to wipe off the balance of debt on the Aberdeen Art Gallery, amounting to 4,000*l.*, on condition that the Town Council arrange for the future maintenance of the Gallery. It was largely through the liberality of the trustees that the recent reconstruction of the building and the addition of the Sculpture Court was carried out, and this is the third contribution the Clark trustees have made to the Gallery, making a total of 12,000*l.* The Gallery will be free of debt if the Town Council agree to the conditions of the offer now made.

The Local Government, Records and Museums Committee of the London County Council announce that the acquisition and restoration of the premises No. 17 Fleet Street—at the time of their purchase some years ago alleged to have been the palace of Cardinal Wolsey—will cost London altogether 28,700*l.*, but of this amount the City Corporation has contributed 2,500*l.*, and a further sum of 1,244*l.* will be obtained from that authority in respect of land surrendered for the widening of Fleet Street. The premises are let at 600*l.* a year, and the net result will be a charge in the first year of 646*l.*, disappearing in forty-seven years. The committee is considering the question of the utilisation of the "council chamber," which has been reserved for public use. The oak panelling and carving in this room belonged to the original building, and the ceiling is an excellent example of Jacobean enriched plasterwork.

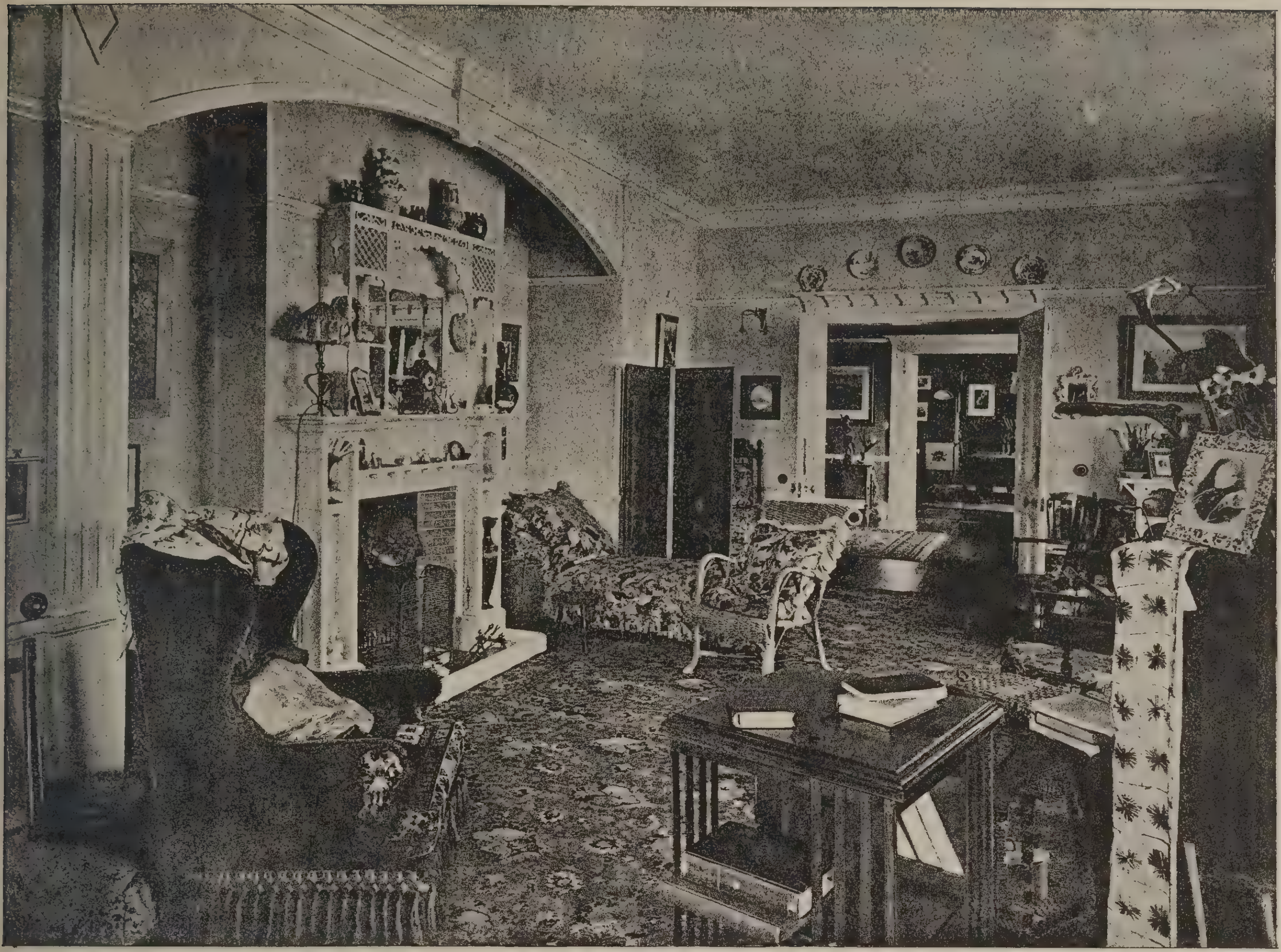
A Deputation appointed by the Midland Arts Club, Birmingham, is to wait upon the art gallery committee to advocate the claims of local artists for recognition when carrying out the conditions of the late Mr. John Feeney's bequest.

Count Plunket, F.S.A., delivered a lecture to the Dante Society on Wednesday evening upon "Overbeck and the German Pre-Raphaelites."

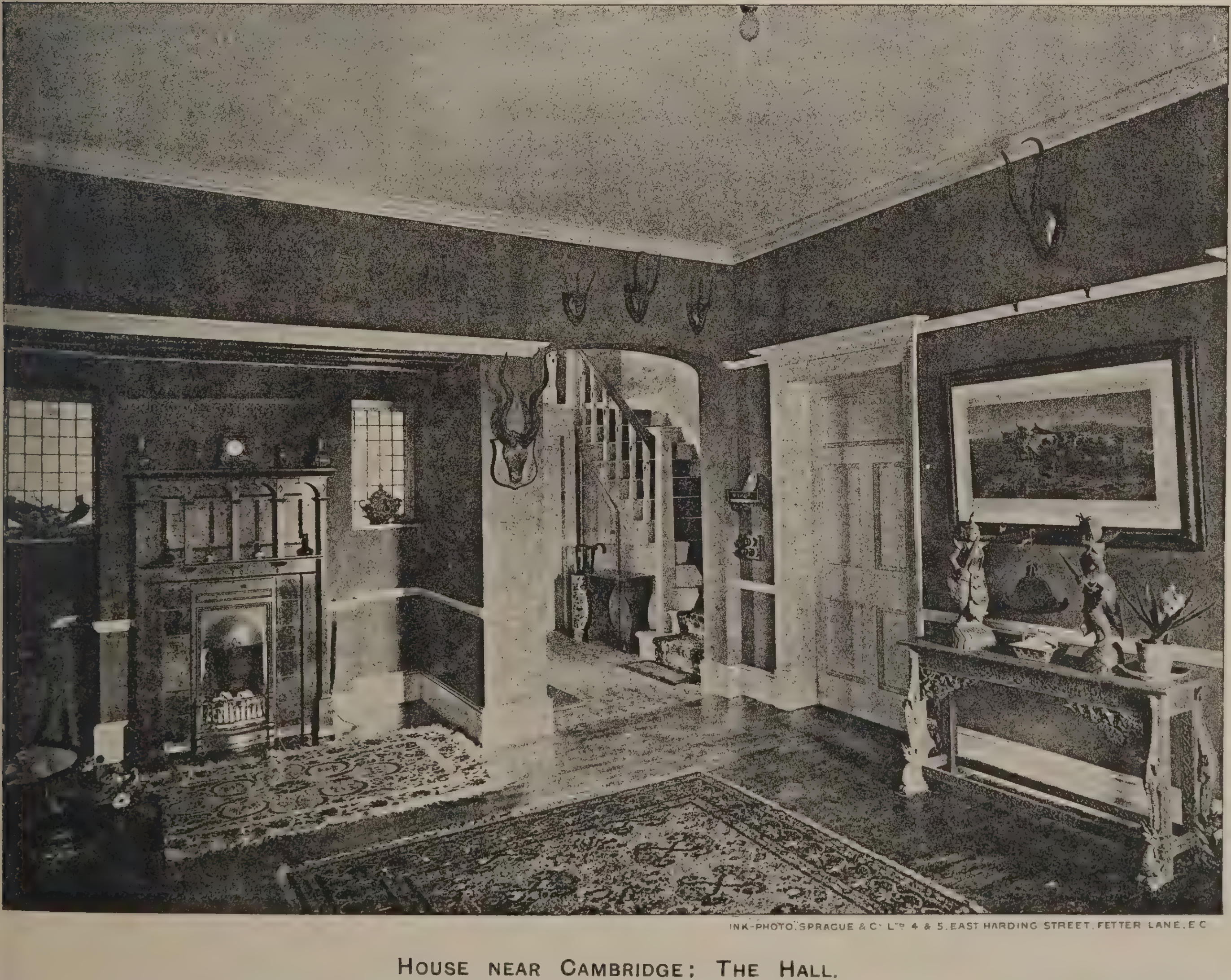
The Architectural League of America opened at New York on January 31 their seventh annual convention. The proceedings were to last three days. The only lecture to be delivered was by Professor A. D. F. Hamlin, of Columbia University, on the relation of sculpture and painting to architecture, treated from an historical standpoint. The League has secured by gift from Harvard University three scholarships in architecture, two to be awarded on the results of competitions held by the various clubs in the League, and the third to the member of the League passing the highest regular entrance examination. Each scholarship is equal in amount to one year's tuition. Funds have been pledged for a foreign travelling scholarship amounting to 1,200 dols. It is hoped and expected that this competition will be an annual affair.

The Foundation Stone has been laid of a new Roman Catholic church for the Richmond Park district, Bournemouth. The architect is Mr. Gilbert Scott, and the contractors Messrs. McWilliam & Son.

The Acton District Council have decided to erect the municipal offices from the design of Mr. H. G. Hunt at a cost of 67,000*l.*



DRAWING-ROOM.



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HOUSE NEAR CAMBRIDGE: THE HALL.

H. STEWARD WATLING, F.S.A., Architect.

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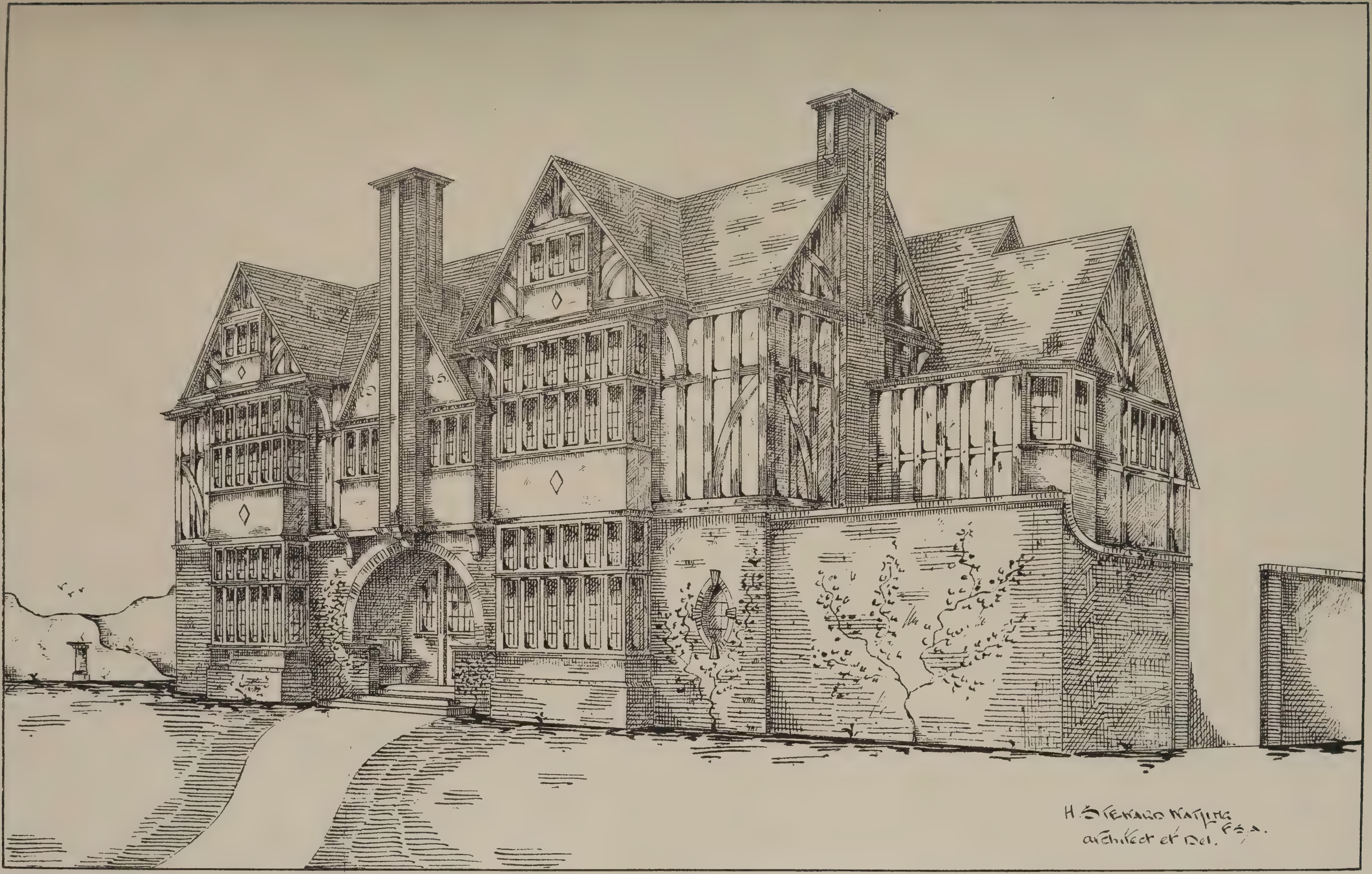

H. Steward Watling
F.S.A.
architect et Del.

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HOUSE NEAR CAMBRIDGE.

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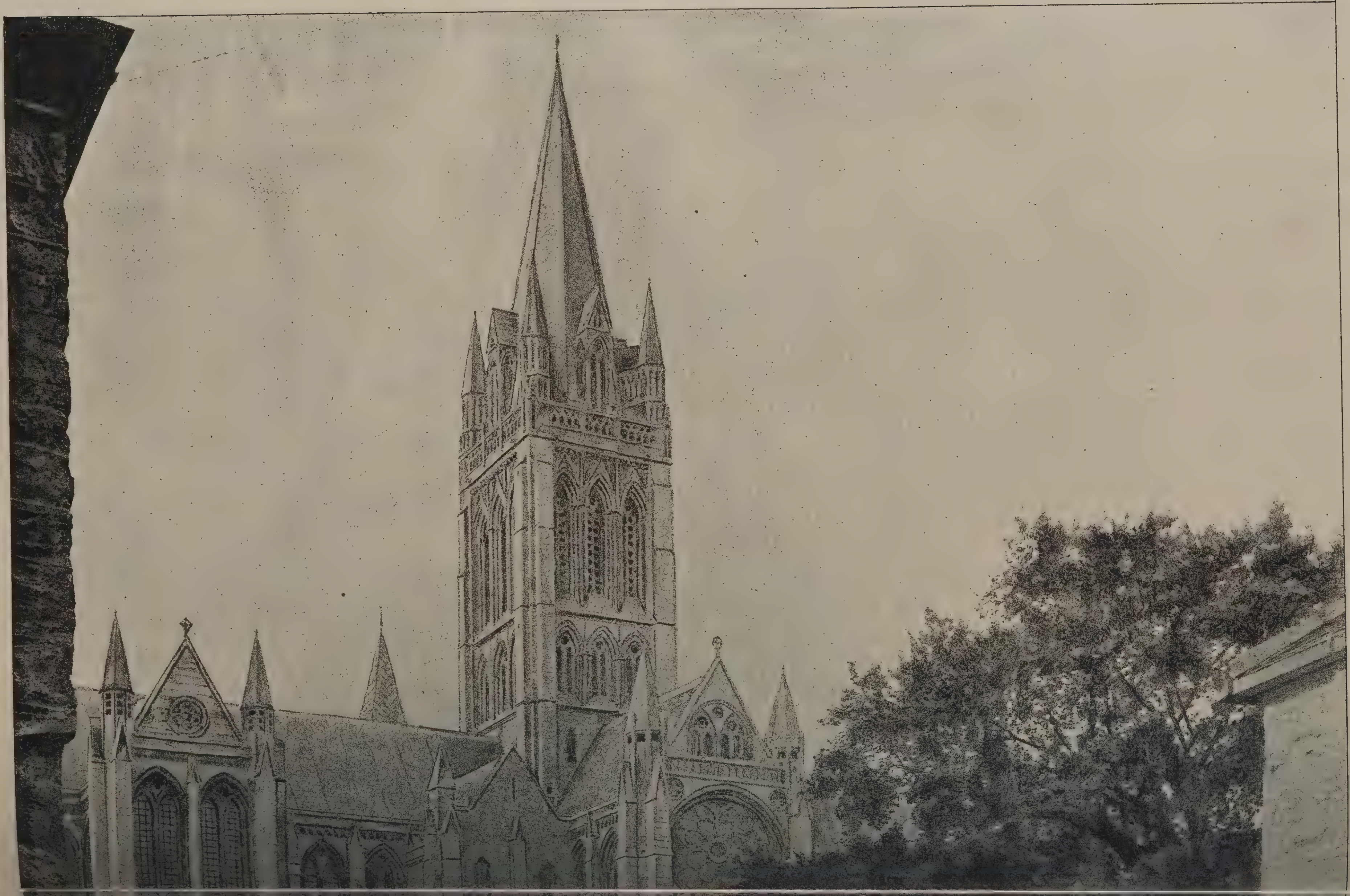

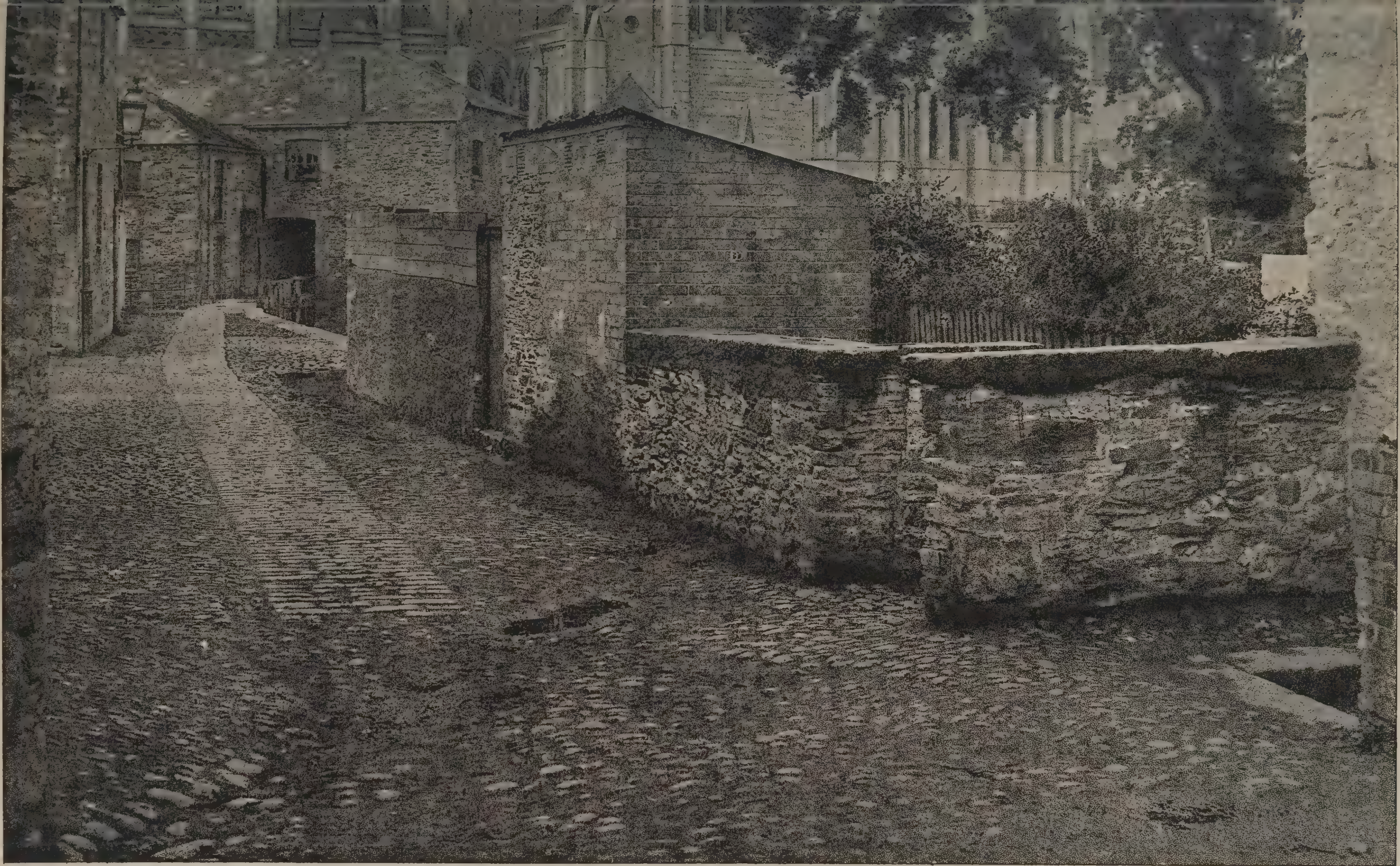

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CATHEDRAL SERIES, NO. 550.—TRURO: THE NORTH SIDE, SHOWING CENTRAL TOWER AND SPIRE.

The late J. L. PEARSON, R.A., Architect.

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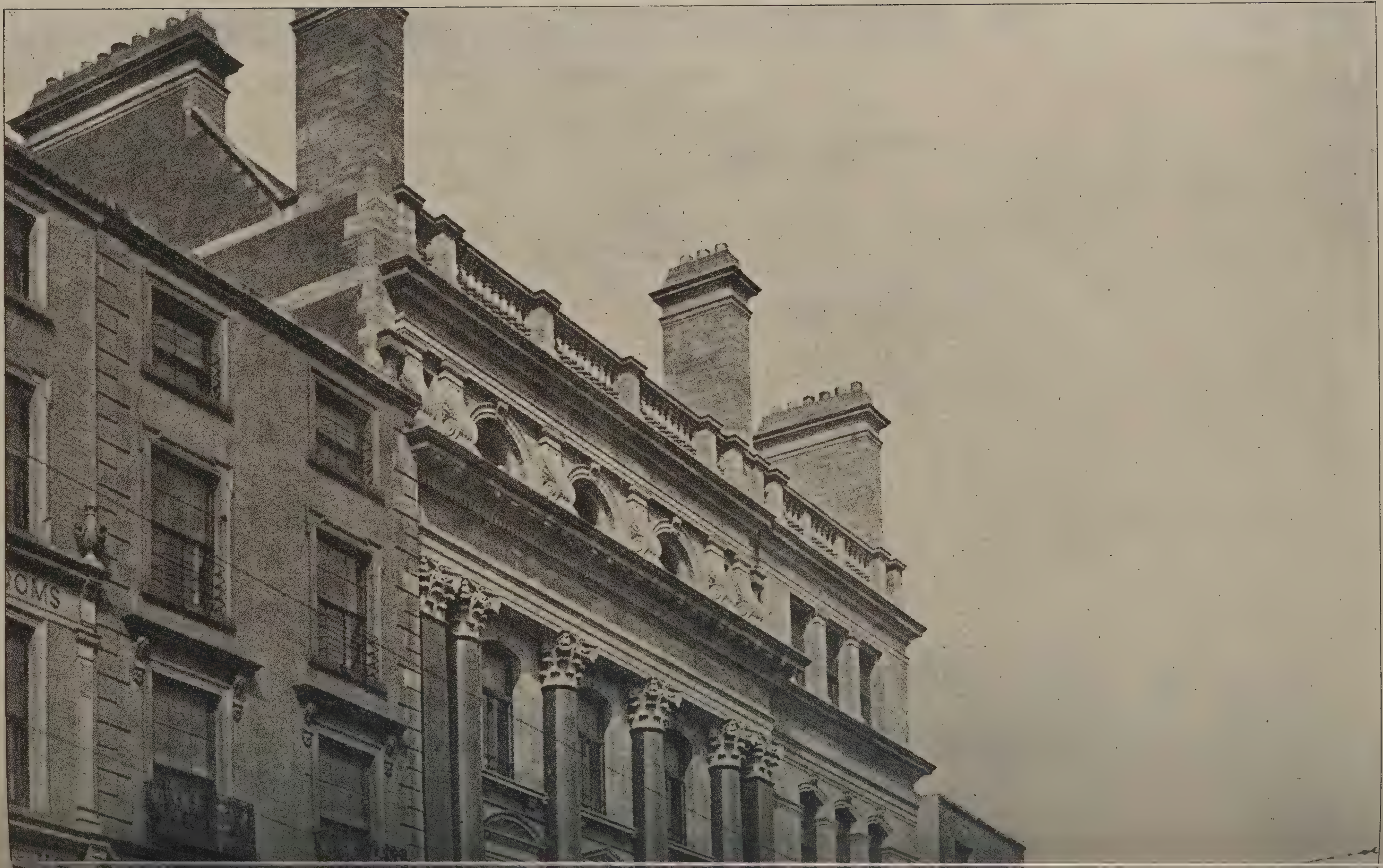
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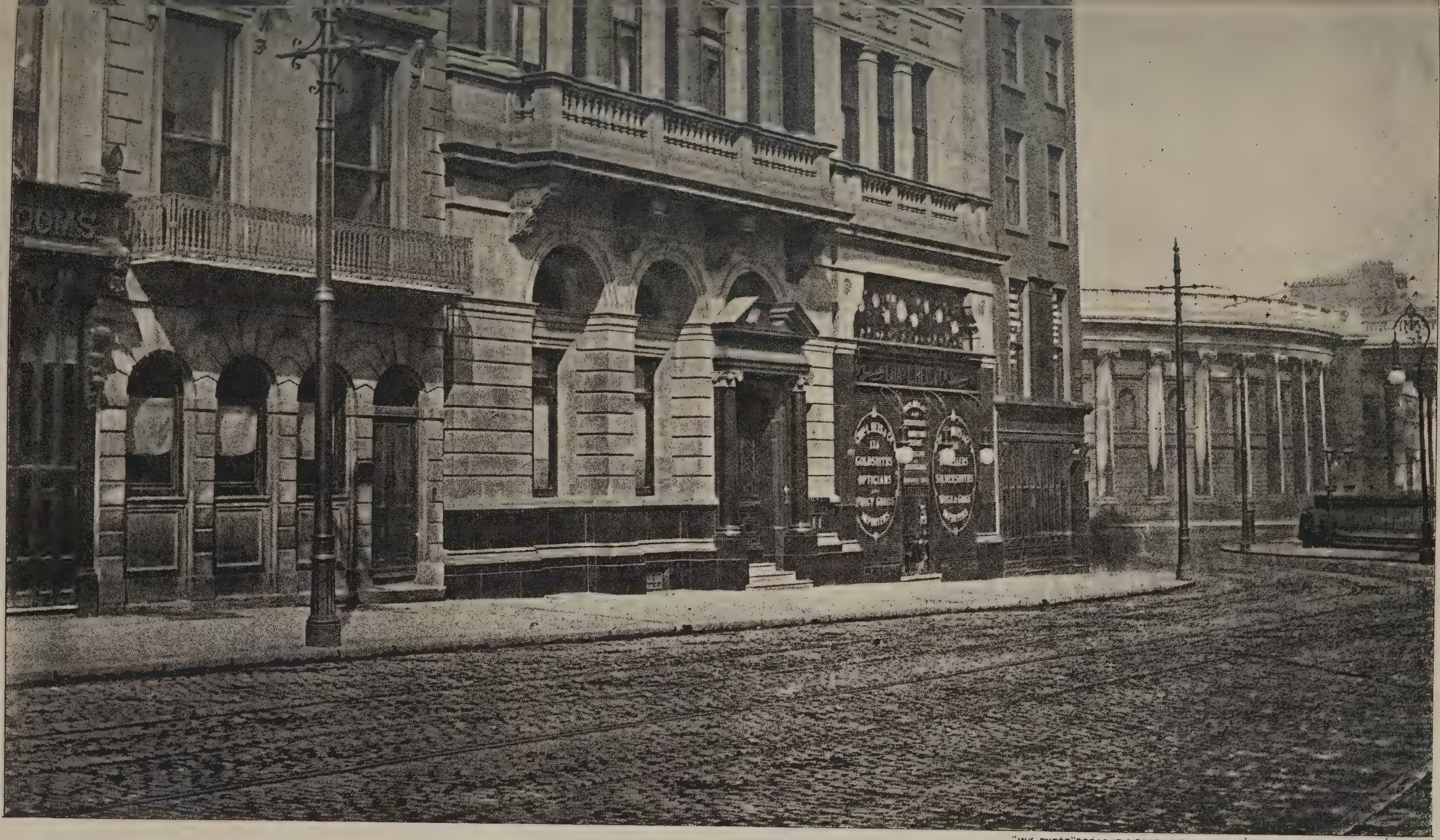

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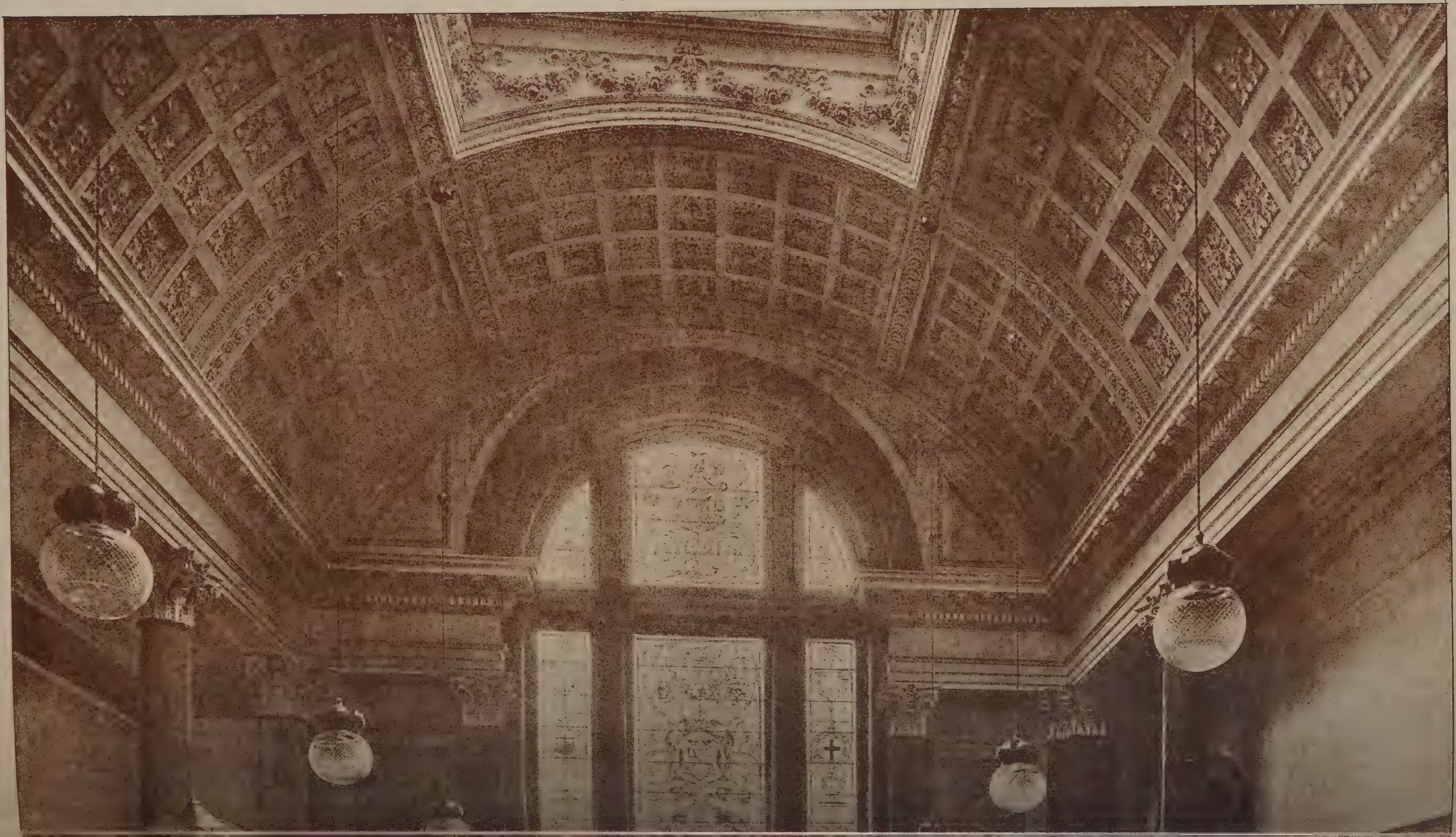

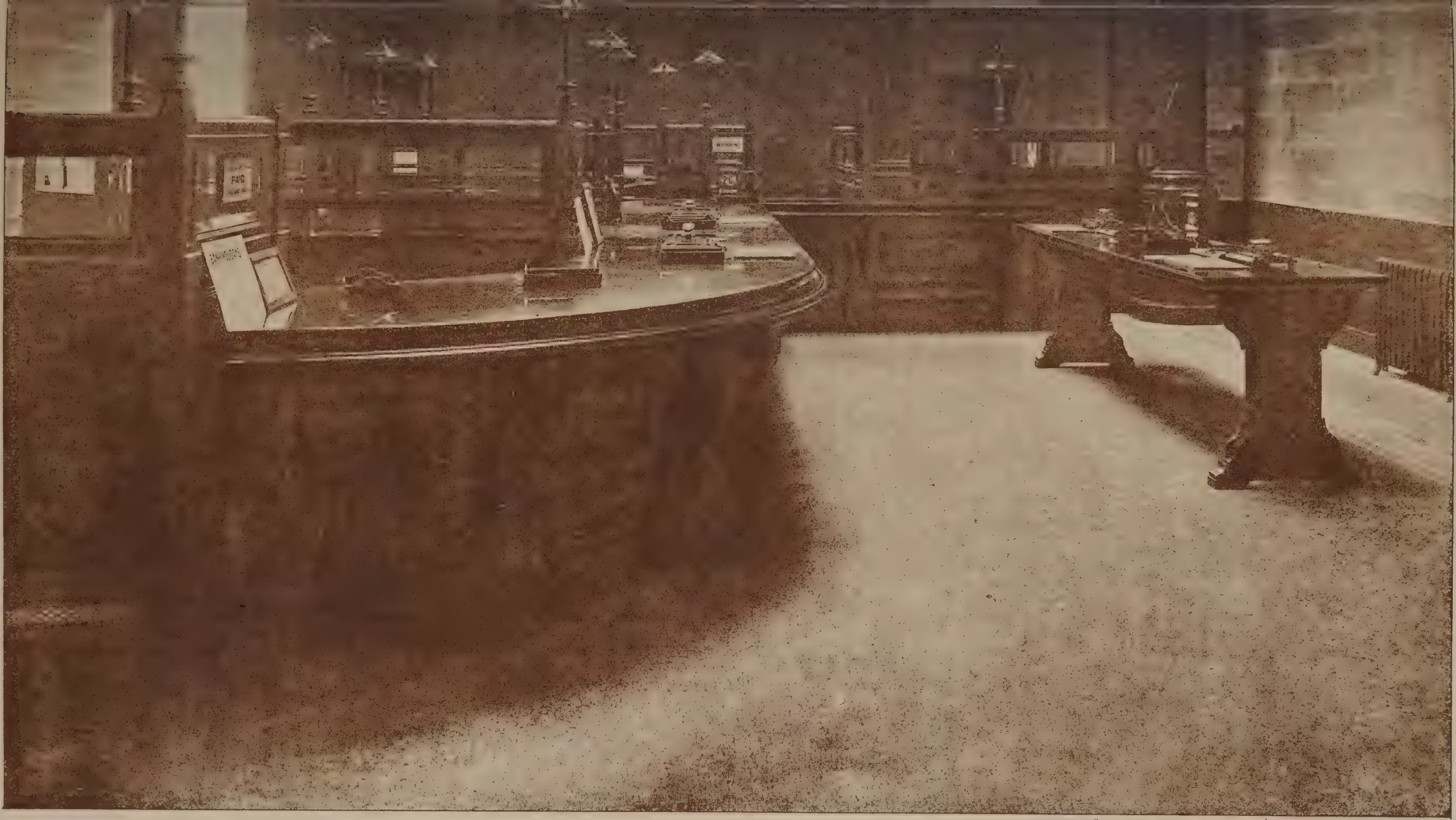

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The Architect.

THE WEEK.

John Pollard Seddon, who died on the 1st inst. in his seventy-eighth year, was at one time among the most prominent Gothicists in England. To him it was more than a style; it was an artistic faith. When so many who appeared to be no less enthusiastic found it necessary to make concessions and by degrees to adopt a different style, he alone remained faithful among the faithless. The fashion of architecture being in favour of forms which John Seddon at one time scorned, his name was not prominent in later years. But he was both brave and versatile. Instead of bewailing the weakness of the age, he boldly took up stained-glass painting and decoration. To fill up a spare hour he was willing to produce a painting or a water-colour drawing which he frankly declared to be no more than a pot-boiler. That he was an able writer there is sufficient evidence in the pages of *The Architect.* His later years were therefore as creditable to him as those when he was busy as an architect; and, indeed, he recalled those Mediæval artists who could build as well as design. He was born in 1827, and was educated at the Bedford Grammar School. His skill as a draughtsman and a writer was displayed at an early period. Drawings of French churches and cathedrals which he made as a young man were remarkable for vigour. He was among the first to be fascinated by Ruskin's essays, and indeed there was often a close resemblance between their manner of treating subjects. His partnership with Mr. Pritchard enabled him to design several churches and schools in the West of England and Wales. Llandaff Cathedral was restored under their direction. The firm was represented in the Paris International Exhibition of 1855 by a design for a mansion near Milford Haven and drawings of a church near Cardiff. Afterwards John Seddon obtained many commissions when he had established himself in London. In those days a Gothic architect was expected to be a propagandist for the style, and he aided the cause in many ways. He was honorary secretary of the Institute for a time. When the competition for the Law Courts in the Strand was being arranged he was one of the artists selected. His design was remarkable for the immense tower which was intended to serve for records, but which in the drawing appeared to dwarf the building. He had great energy with artistic power, and he certainly merited a much larger practice than he attained. His life was laborious, but he has obtained rest, and has passed away with the respect of all who were acquainted with him.

The conference of local authorities who are directly concerned in the destruction of the coast by the sea was a demonstration of the extent of the danger. There were thirteen delegates present, and other local authorities expressed their interest in the effort. The representative of Bridlington said that it had cost the local authority 100,000*l.* for the protection of one mile of coast. That involved an annual repayment of 2,864*l.*, to raise which a 9*d.* rate had to be imposed. In Filey the rate for a similar purpose amounts to 1*s.* 1½*d.* in the pound. It was laid down by Mr. Justice Fry that it is the duty of the Crown to protect the land, both from foreign enemies and from the water which surrounds the island, although the right of the subject to have the duty performed could not be enforced by the Court. It was therefore resolved "That steps should be taken to obtain some assistance from the Imperial Exchequer towards the ever-increasing burden of expense which local authorities on the seaboard are compelled to bear owing to the constant erosion by the sea, and that, with a view to carrying out this object, a petition be presented to His Majesty the King in Council, praying that right may be done in the premises." Another resolution was:—"That representatives of this conference be appointed to approach the Prime Minister and President of the Board of Trade to request the Government to introduce into Parliament a Bill declaratory of the aforementioned principles, and to define ways and means whereby some relief towards, or allowance in respect of, the cost and maintenance of protective works might be contributed by the Government." A committee of representatives of the local authorities of Herne Bay, Southwold, Aberystwith, Rhyl, Ventnor, Bridlington and Eastbourne was appointed to frame a petition to the King in Council, and to submit the same for approval at a subsequent meeting of the conference. It must be allowed that at the present time sufficient care is not taken of all parts of the coast. In some places the lord of the manor, or owners of neighbouring land, claim the sole right either to operate on the coast, to remove shingle, or to allow the sea to exercise its full power. Even the owners of a site for a small house claim to be omnipotent over some 20 feet of coast, and often boast of their privilege. Local authorities are not always able to contest those rights. What is desirable is that the County Councils should exercise entire control over the coast as far as it abuts on their respective counties, and should be allowed to raise the money required for protecting the land.

Probably the earliest local museum in Great Britain was established in Perth, the Fair City which was the scene of so many historical events. The contents of the museum may not be remarkable, but they are suggestive. The building containing the museum is modern and in good condition. Perth is much visited by tourists, but apparently they remain only for a limited number of hours, and they prefer to enjoy the scenery rather than to inspect the museum. The majority of the members of the Antiquarian Society likewise avoid the rooms. But although it may be neglected, the museum cannot exist without more or less expenditure, and it is found that the subscriptions are not equal to the outlay. Some propose that the whole of the contents as well as the building should be made over to the Town Council if that body would accept the gift. Other members who are more sanguine consider there are enough lovers of antiquity in the district who would make an effort, if called on, for the preservation of an institution which has had an existence of about a century and a half. Local museums are desirable. But if a city like Perth cannot uphold one, there is less likelihood of support in other places.

Sparta has not been fruitful in yielding examples of art, although it cannot be said that the people were entirely indifferent to sculpture. The British school at Athens has been entrusted with excavations in the province of Laconia. Trials have been made at Thalamae, Geronthrae, and Angelona. Fortifications have been surveyed and a catalogue prepared of the contents of the museum at Sparta. Mr. G. A. Macmillan, the chairman of the managing committee, says that:—"In conjunction with the survey trial, excavations will be made with a view to ascertaining the extent of the remains, their general character and state of preservation, and the prospects of an excavation on a larger scale. When the heat brings work at Sparta to an end the excavations at Geronthrae will be continued, and possibly other sites may be tested. Serious attention will be given also to the remains of the Byzantine and Frankish periods, in which the province of Laconia is so rich. For this work the committee have secured the services of an able architect, Mr. Ramsay Traquair, of Edinburgh." As usual, money is the obstacle to systematic research. At least 700*l.* or 800*l.* will be required, towards which sum the subscribers to the school have given 200*l.* Contributions will be received by Dr. Leaf, the treasurer, 6 Sussex Place, Regent's Park, and the investigation is one that should appeal to architects.

THE PROPOSED TECHNOLOGICAL INSTITUTE.

THE final report of the departmental committee on the Royal College of Science, &c., is a document which must give rise to serious reflections on the part of many professors of science in London. Tennyson noted "the sublime repression of himself" as one of the characteristics of the Prince Consort, and there will have to be a general exercise of that quality if the recommendations of the committee are carried out. Professors who have gained reputation in certain positions will find themselves, if they are accepted, recommencing in a novel institution. It must be admitted, on the other hand, that as technical education of the kind that is recommended was only lately desired in this country, and that the arrangements for the purpose were improvised rather than deliberately thought out, changes are indispensable. The origin of education in applied science can be traced not to universities or colleges, but to the geological survey which was established in 1846 under Sir Henry de la Beche. The original officers, although able men, received about 9*s.* a day, and on that account they were enough to deter students from following science. In fact, at the time there were no other public appointments open to men who had studied any branch of science. They were supposed to find sufficient opportunities for the exercise of their knowledge in trade and manufactures.

The advantages of a geological survey, even if carried out at the low rate of 9*s.* a day, was not evident to the majority of people. It became necessary to demonstrate that serious losses in fruitless mining enterprises might have been avoided if geological science had been recognised. More than a million sterling must have been expended in efforts to find coal under impossible conditions. As a means of diffusing knowledge about the earth's surface, a school of science applied to mining and the arts was opened in London in 1853, the teachers being geological surveyors. That they were pleased by the change is evident from a letter of Beete Jukes, who said, "I am almost tired of perpetual field-work, and long to read and to lecture." Soon afterwards a Museum of Irish Industry was set up in Dublin, in which other officials besides geological surveyors acted as professors. A Royal College of Chemistry was opened in Oxford Street as an auxiliary to the School of Science, although without any direct connection with the geological survey.

For a time the scientific classes were independent of the arrangements made about the same period for the teaching of practical art. But Henry Cole was able to convince the Government that there would be advantages if both science and art came under one control. The Mining School underwent several changes of title, and eventually became the "Royal College of Science, with which is incorporated the Royal School of Mines." It would be vain to deny that the School of Mines, although appearing to occupy only a secondary position, is at the present time the dominant factor of the Royal College of Science. What is more extraordinary, it appears to occupy a similar position in the final report of the departmental committee. The school has been successful, and the possession of South Africa has opened a new field for trained miners.

However favourably we may be disposed to consider the official arrangements for the teaching of science, they can only be accepted as substitutes for a better system, for they will not bear comparison with those adopted in various other countries. There is no doubt that students from some of our colleges and schools are to be found in responsible positions. But they would not be likely to admit that their only training was in the class-rooms. In all those institutions a large percentage look forward to occupation as teachers, and some may expect to obtain official employments where only a limited amount of skill or knowledge is required. When the English schools are compared with those of Germany, as is done by the committee, it will be evident that, whatever may be the success of individual Englishmen, the system adopted with us is inferior to that followed abroad. The report states that:—"So close is the connection which is considered in Germany to exist between technical education and industrial prosperity that the Germans believe that the establishment and maintenance of these institutions, merely as a financial speculation, have repaid over and over again the vast expenditure incurred, and that they have been of benefit, not only to the few who gain directly, but to the wage-earning classes and the mass of the nation as a whole, by being the means of creating new industries, by preventing the decay of existing industries, and by increasing the demand for skilled labour."

Some people may say that the easiest course for us to follow would be to establish schools like those in Germany, Switzerland and America. But there are vested interests which have to be considered. Under the Board of Education are colleges and schools. The guilds of London have at least two colleges. The London University has also a scientific department, and has possibilities which are not possessed by any other educational institution in this country. All these bodies have to be reckoned with. They cannot be suppressed and probably will not be surpassed. Policy, therefore, dictates that they should be utilised as far as circumstances will allow. The President of the Board of Education has great powers, but he cannot call into existence a technical institution of the kind which many theorists see in their visions. Probably the most that is attainable will be to make the new institution subservient to the University of London.

The Government—*i.e.* the Board of Education—are favourably disposed to the new project. Assuming that the Royal College of Science, including the School of Mines, is brought in, the Treasury are prepared to place at the disposal of the new institution the buildings now used for the purposes of the Royal College of Science at South Kensington on the east side of Exhibition Road, and the buildings in course of erection for the same purpose on the west side of the road; to grant 20,000*l.* per annum in respect of the cost of the staff and of the laboratory expenses; to maintain for the present both sets of buildings in external repair; to provide heating and lighting for both sets of buildings and to pay local rates; to satisfy the claims of the staff for such pensions as may be assumed to have accrued up to the date of transfer. The Council of the City and Guilds of London Institute are also willing to share in the common government and administration that is proposed. The Commissioners of the Exhibition of 1851 who have already given so much land as sites for educational buildings, will place an extensive site for such buildings as will have to be erected for the proposed institution. From this it will be seen that there is a possibility of a start under most favourable auspices and that accommodation will be provided at South Kensington for a very large number of students. The whole history of education, varied as it is, presents n similar instance of provision of the materials required for imparting knowledge. That history also shows tha excellent as may be aids and appliances, and indeed fo technical purposes they are an indispensable necessity the communication of knowledge can be best accomplished by the agency of teachers. It will be professors and not the contents of laboratories and testing-rooms who will make the institution a success.

The report does not make any suggestion about th kind of professors who are to be engaged in order t impart life to the colleges. It is suggested that ther should be a governing body of forty members, who ar to have the general management, direction and administration. They will make the appointments. But it i suggested that the professors of the constituent institutions should be regarded as professors of the new inst tution. How many professors are desirable is not stated nor what subjects are to be taught. The higher branche of technology should, it is said, be as far as possible concentrated at South Kensington, and it is added that "in the establishment of new departments we do not think it will be possible at present to go much beyond the various branches of engineering, with mining and metallurgy, though we hope provision may be made later for other subjects. We think the principal technical and engineering societies should be consulted as to the departments most requiring development and expansion, and as to the number of students for whom it is desirable to make provision in each department." Higher technology is an attractive phrase, but it would be desirable if a little more precise information were given respecting the kind of work which is anticipated. To express a doubt about the necessity for a biological department is not sufficient to indicate the extent of the course. If we take the Charlottenburg School as a model we know from the report what is taught and what is not. The departments, it is said, consist of (1) architecture, (2) civil engineering, (3) mechanical engineering (including electro-technics), (4) naval architecture and marine engineering, (5) chemistry and metallurgy, and (6) general science. The sixth department, which comprises a variety of subjects, principally branches of mathematics and physics, may be regarded as the common property of the other five.

The recognition of architecture is only just, for the school was established by the union of the Berlin Architectural Academy and the Berlin Industrial Academy, which had coexisted for more than fifty years. But the departmental committee completely ignore architecture. It may be said that architecture as a science will come into the department of engineering. But we cannot find anywhere in the report a statement to show that chemistry, which in a technological sense is the most important of all sciences, is to be taught under conditions which will be superior to those of ordinary colleges. We can take it for granted that by amalgamation much will be gained. But how or in what degree has not been demonstrated. Indeed, from one part of the report we are led to imagine that the inquiry would not have taken place if it had not been that buildings have been erected at a cost of a quarter of a million for a Royal College of Science, and that the Government officials were not clear about the best way of utilising them; or, as the report expresses it:—"If proper advantage was to be taken of the expenditure of this very large sum, it had become a pressing question to settle the future scope and functions of the college."

We have elsewhere reprinted several of the recommendations in the report. They will, we think, convey the impression that at present there is a great deal of nebulosity about the scheme. This contemplated technical institution will be, if it ever come into existence, leviathan among schools and colleges. But several ears will be required for its gestation. To the departmental committee existing institutions are only make-hifts, and as a result they will decline in public favour. t is not impossible, however, that the colossal establishments at South Kensington will be less successful than ome of those local organisations for technical education which are now endeavouring to supply the information that is desirable. Meanwhile manufacturers and others who have to sustain competition with foreign rivals will do well to take advantage of every means of cquiring knowledge which is within their reach. The ountry has had a woeful experience already of the difference between the promises and the performances of South Kensington, and it will not be wise to let the oreigners have their way for some years to come while we are waiting until the governing body of the proposed nstitution are able to carry out the onerous task which will be imposed on them.

Mr. John C. Dollman and Mr. S. Curnow Vosper were on aturday elected associates of the Royal Society of Painters in Water-Colours.

SAINTE CLOTILDE, PARIS.

The discreditable scenes which were enacted at the church of Sainte Clotilde in Paris on the 1st inst. imparts a melancholy though momentary interest to that building. It has now attained an unenviable reputation as a sort of battlefield. But this is not the first occasion it has caused commotion. It is at the present time largely attended by people who are popularly supposed to be the representatives of the old aristocracy—a class who prefer royalty to all other forms of government, and the church has for them special interest, for it can be considered almost as a royal creation. The history of it may therefore be worth narration.

As far back as 1825 the necessity for the erection of a church in the district which lies between the Invalides and the river was recognised. At that time the municipality provided churches as they would other public buildings. In 1827 the site was selected, and it was arranged that the church should be dedicated to St. Charles, who was the patron saint of the reigning monarch, Charles X. Before a stone had been laid there occurred a revolution, with the result that Louis Philippe ascended the throne. Several years were allowed to pass before the erection of the church ceased to be merely a project. The queen was an Italian princess, and was devoted to acts of piety. All her influence was used to have the works commenced. The question of a design was then debated. The Duke of Orleans, who was the heir to the throne, was married to a German princess, and, partly to gratify her, the art and literature of Germany were accepted with unusual admiration by courtly Frenchmen. The Romantic movement had also the same tendency, for it favoured all things which were Gothic, and to many French minds Gothic and German were identical.

Accordingly, when in 1846 Queen Marie Amélie considered it was her bounden duty to have the church erected in the Place Bellechasse, the commission was entrusted to M. Gau, who was a German by birth, but had been for several reasons resident in France and held official appointments. He was also founder of a school for architecture, in which Semper was a pupil. He was a native of Cologne, and it was expected that he would erect a church resembling the great cathedral, although on a smaller scale. The selection of the style caused much dissatisfaction, especially among the architects. In 1846 efforts were being made in England to secure the erection of Gothic churches, because the style had at one time prevailed throughout this country. But the Renaissance style had taken such a hold on France that the adoption of Gothic appeared to be a return towards barbarism. The result was a contest between the Court and the building authorities, and it may have been one of the causes which led to the overthrow of Louis Philippe two years afterwards. No less than three times the Council of Civil Buildings returned Gau's plans without approval, and three times the Minister of the Interior ordered that they should be carried out. Gau attempted to meet the opposition by taking details from the church of St. Ouen at Rouen with the result that might be expected. In other words, German Gothic and French Gothic did not harmonise. What is still more extraordinary, as if he wished to compliment the reigning family, he introduced also some details from the cathedral of Orleans, and in that way made his designs still more incongruous. The plans were repeatedly submitted to M. Didron in order, if possible, to win the approval of that learned archæologist, but without success. Royal power was not to be overthrown for the sake of consistency of style, and in spite of all the opposition the building was commenced.

After the downfall of Louis Philippe the works were continued under the Imperial Government. Gau had some claim on Louis Napoleon, for he had assisted in the production of the work which described Bonaparte's expedition to Egypt. He lived until the end of 1853, and then the incomplete building was handed over to Théodore Ballu. He at least had shown a true appreciation of Gothic, for he had restored the tower of St. Jacques de la Boucherie, which is one of the finest structures in Paris, and the church of St. Germain l'Auxerrois. Under his direction the work was completed.

The church has a length of about 312 feet and a breadth of 124 feet, and consists of a nave with two aisles. Few modern French churches have been decorated in so costly a manner. It was resolved to emphasise the Mediæval character of the building, and on the windows were employed artists who were then eminent for that class of work, including Maréchal, Amaury-Duval, Husson, Thibaut, Hesse, Galimard and Jourdy. For the "Stations of the Cross" Pradier accepted a commission, and although they are not Gothic in character his high reliefs are worthy of the sculptor of the "Sappho." The bas-reliefs showing the history of Sainte Clotilde are by E. Guillaume, who recently died, and was long director of the Academy at Rome. The wall-paintings are by Lehmann, Pils, Lenepveu, Bezard, Brissot and others. At the first glance it becomes evident to the visitor that no expense was spared in the adornment of the church, and that it is adapted for a wealthy congregation. It must, however, be owned that neither the building itself nor its decoration produces so satisfactory an impression as others of the modern churches in the city.

Whatever may be its shortcomings, it is to be regretted that the church was treated as if it were a fortification or a barricade last week. The police, firemen and guards had to obey orders, and are, therefore, not responsible for the damage they caused. The blame for the desecration must rest on those who assumed they were defenders of the building, although they must have known that their resistance was more likely to be injurious to the church than to themselves. The authorities were not about to seize any of the valuables which belonged to the church, and all of which being modern productions could not have the interest attaching to the ancient metalwork which is found in some of the old churches of France.

SOME LEGAL BOOK REVIEWS.

"The Law of Repairs and Improvements."* The subject of this book enters, as the author says in his preface, into some of the chief departments of everyday practical law, and we welcome this attempt at giving it an independent treatment. The book is divided into four parts. In the first part liability to repair as between tenant for life and remainder-man, and between tenant for life and the testator's estate, are first treated of; then follow chapters upon trustees' duties as to repairs, upon improvements, upon repairs and improvements under various statutes, upon repairs and improvements under compulsion, and upon miscellaneous duties to repair. The second part deals with the subject of repairs and improvements as between landlord and tenant. The third part deals with repairs and improvements as between vendor and purchaser. The fourth part deals with the subject of ecclesiastical dilapidations. It will thus be seen that the treatment of the subject is comprehensive. But occasionally the scheme of arrangement adopted does not appear to be altogether adhered to. Part II. deals with the subject as between landlord and tenant, but Chapter XIII. of that part diverges to treat of the duty of repairs as between adjacent neighbours. We should have thought that that subject could have been better treated of in Part I. Again, in Chapter VIII. of Part I. a number of miscellaneous duties are put together which might have come more naturally under appropriate heads in other parts of the work. It is difficult to see, for instance, why the statement that "a purchaser is entitled to improvements arising on property after the contract and before conveyance" comes in that chapter, when the whole subject of repairs and improvements as between vendor and purchaser is fully treated in Part III. The complicated and important question of the construction of covenants, casting upon the tenant liabilities for repairs, rates, taxes, duties, &c., is well discussed in Chapter XX., and all the recent cases are referred to. Perhaps it would be as well to warn readers that, since the decision of some modern cases such as Foulger *v.* Arding, many of the older cases and much of the reasoning therein contained cannot be relied on (see Goldstein *v.* Hollingsworth per Lord Alverstone, C.J., 1904, 2 K.B. at p. 581). At p. 234 it is said that "agreements relating to the sale of an interest in land must, under the Statute of Frauds, be in writing, and where an agreement as to paying for certain alterations and improvements is so closely connected with an agreement to take a messuage as to be incapable of severance from it, such agreement as to alterations, if not in writing, is also void." But it is surely well known that agreements which do not comply with the Statute of Frauds are not void, but are enforceable by action. That the two things are not similar the case of Leroux *v.* Brown (12 Q.B. 801) shows; and at least a reference should have been made to the possible modification of the rule of the Statute of Frauds by the equitable doctrine of past performance. At pp. 149-58 the subject of covenants running with the land and the reversion is dealt with. The principles upon which such covenants run with the land at law and in equity are very different, and we think that it would conduce to clearness if the different principles were clearly and separately explained. When dealing with the liabilities of personal representatives in respect of dilapidations for which a deceased person is liable, we should have expected to see some reference to the case of Reid *v.* Lord Tenterden, 4 Trywh. 118, 120. These defects may easily be remedied in a second edition. On the whole, we think that the book collects together a mass of authority upon the subject in a convenient manner which cannot be found so collected elsewhere. It should prove useful not only to the lawyer, but to the surveyor and the land agent. The index is good, and the printing and general get up of the book leave nothing to be desired.

"The Law of Easements."* This little book is intended primarily for students, and therefore it does not pretend to do more than supply a clear outline of the subject. The discussion of disputable points is avoided, and only the most important cases are cited. Within the limits which the author has assigned to himself we think that he has succeeded very well. Anyone who reads the book carefully will have acquired the leading principles of a branch of law which is by no means easy to understand. For this reason we think that the book can be recommended not only to students, but also to those whose business brings them much into contact with landed property. A knowledge of the principles of this branch of law will often suggest considerations which should always be present both to vendors and purchasers of houses and land, and to architects and builders. This will be clear if we glance at the particular kind of easements dealt with by the author in Chapter III. They include rights to light, easements relating to the flow of air, easements relating to the flow of water, easements relating to the purity of air and water, easements relating to the support of land and buildings, and ways. We note that the important decision in Colls *v.* Home and Colonial Stores is adequately dealt with. No doubt the case of Kine *v.* Jolly (1905, 1 Ch. 480) was decided too late for inclusion. It should be noticed in a later edition. The scope of the book prevents a discussion of doubtful points. We think, however, that when the law is doubtful that fact should be clearly pointed out in the notes. For instance, at p. 106 we think that it should have been pointed out that the case of Jordeson *v.* Sutton, &c., Gas Co. leaves the question of the right to support of land by water in a somewhat uncertain state. Also we think that at p. 12 some reference might have been made to the case of Goodman *v.* Mayor of Saltash, L.R. 7 A.C. 633. We agree with the author that it is a wise course to cite an authority for every proposition, nor do we think that the list of cases is too long for the student. Indeed, we should not have minded seeing it longer, especially if the more important had been distinguished in the list of cases by larger type. In the list of cases Tulk *v.* Moxhay is called Tulk *v.* Moxhem.

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* *The Law of Repairs and Improvements, including Ecclesiastical Dilapidations.* By J. H. Jackson, M.A., Christ Church, Oxford, and of the Inner Temple, barrister-at-law. (London: Butterworth & Co., 11-12 Bell Yard, Temple Bar. 1905. 8vo, xliv. and 318 pp.)

* *An Epitome of the Law Relating to Easements.* By T. T. Blyth, of the Inner Temple and Midland Circuit, barrister-at-Law. (London: Sweet & Maxwell, Ltd., 3 Chancery Lane, W.C. 1905. Pp. x. and 171.)

"Income and Property Tax."* "The object of the present work," says the author, "is to provide a concise and trustworthy guide so that the taxpayer may know his rights and obligations." We think that the author has attained his object. He has clearly digested into 176 propositions a large mass of complicated rules. No doubt many persons evade payment of their just share of the tax, and no doubt this is the reason why the taxing authorities are apt sometimes to assume that all taxpayers are similarly dishonest. This is a very good reason for the production of works like the present. They assist the honest taxpayer to resist the sometimes exorbitant claims made by authorities, who occasionally appear to consider that the presumption is always in favour of the view that evasion is being attempted.

ART AND LITERATURE.

A LECTURE was delivered by Mr. George Russell on the 1st inst. in the Royal Hibernian Academy, Dublin, on "Art and Literature." Mr. Russell said it was necessary to release artists from the dogmas of critics who were not artists. The artist would take advice or criticism from a fellow-artist, but he writhed under opinions derived from Tolstoi or Ruskin, the great theorists. The pure artist was as God made him, and no one—not even Tolstoi or Ruskin—was competent to undertake his re-creation. Beauty was what the artist was profoundly concerned with, and the only moral ideas which he could impart in a satisfactory way were the moral ideas naturally associated with beauty in its higher or lower forms. They had round them the works of an artist who used his art to express his ethical ideas. Where he was weakest was where he summoned consciously to his aid ethical ideas, which found their proper expression in religion or literature. There was no need for art to call to its aid, in order to justify or ennoble it, any abstract ideas about love or justice or mercy. It might express an opinion of these ideas, and yet express truths of its own as high and as essential in the being of man, and it was in despite of himself and in despite of his theories that the work of Watts had and would enduringly have a place in the history of art. He might be asked, Could art express no moral ideas? In the definite and restricted sense in which "moral" was used art must be "unmoral." But let no one represent him as saying that art should be immoral in its nature. And when he said that art was essentially unmoral he meant that the first impulse to paint came from something seen, either beauty of colour, form, or tone. Whether a picture was moral or immoral would depend on the character of the artist and not of the subject. A man would communicate his character in everything he taught. He could not escape communicating it. Art was essentially a spiritual thing. When they asked an artist that he should teach them let them be careful. In that they were asking him to be obvious, and to utter platitudes; they were asking him to debase his art and make things easy for them, who would not climb to the mountain but wanted it to be brought to their feet. The artist, as he created a beautiful form, admitted to his being a nobler beauty than his eyes had seen. His inspiration was spiritual in its origin, and in it there was always some strange story of the glory of the King. His own conviction was that ethical pictures like some of those he saw around him were, if anything, immoral in their influence, as everything must be which forsook the law of its own being. The true artist would still be instinctively spiritual. Spirituality he should define as the power that certain minds had of comprehending the formulas of spiritual essence, of seeing the eternal in the transitory, of relating the particular to the universal, the type to the archetype. What about the art of the landscape painter? he might be asked; where was its spirituality? A great landscape was the expression of a mood of the human mind as definitely as music or poetry was. There was some mystic significance in the colour he employed. They were looking into the soul when they were looking at a Turner, a Corot, or a Whistler, as surely as when in dreams they found themselves moving in strange countries which were well within them concealed in the hollows of the brain. In this art also was reaching itself out to archetypes. It might seem paradoxical to say of Watts, a man of genius who was always preaching through his art, that it was very difficult to find what he really expressed. No one was ever in doubt about what was expressed by a Turner, a Rossetti, a Corot, or a Millet, who never preached at all, but whose mood or vision, peculiar to themselves, was easily definable. With Watts the effort at analysis was confused, first by his own statement about the ethical significance of his work, which he (the speaker) thought misleading, because, while they might come away from his pictures with many feelings of beauty and mystery, the ethical spirit was not the predominant one. In conclusion, Mr. Russell said that just as in each person there was an undefined and awakened instinct, so in the work of the artist there was something of himself, and a mystery that he might recognise but could not explain.

TECHNOLOGICAL INSTRUCTION.

THE preliminary report of the departmental committee relating to the working of the Royal College of Science, &c., was noticed in *The Architect* on its appearance. We have received the final report from the Board of Education from which we extract the following:—

We recommend that a governing body should be established, consisting of forty members, appointed as follows: six by the Crown; four by the Board of Education; five each by the University of London, the London County Council, and the Council of the City and Guilds of London Institute; four by the teaching staff of the new institution; two by the Commissioners of the Exhibition of 1851; one each by the Royal Society, the Institution of Civil Engineers, the Institution of Mechanical Engineers, the Institution of Electrical Engineers, the Iron and Steel Institute, the Institution of Naval Architects, the Society of Chemical Industry, the Federated Institution of Mining Engineers, and the Institution of Mining and Metallurgy.

The governing body should have the general management, direction, and administration of the new institution, which should be established in the first instance as a school of the University of London.

For the purposes of the new institution the governing body should have the entire disposal of the accommodation provided by the Royal College of Science, including the buildings in course of construction at South Kensington, the Central Technical College, and all buildings which may be erected on the additional site at South Kensington.

The site and buildings of the Royal College of Science, including the buildings in course of construction, should either remain the property of His Majesty's Government or be transferred to the governing body of the new institution, as His Majesty's Government may determine.

The site and buildings of the Central Technical College should, if and so long as they desire it, remain the property of the City and Guilds of London Institute, who should provide for their maintenance and repair.

The governing body should be incorporated, and subject to such special provisions as may be made by their instrument of incorporation they should receive and expend fees and other funds which may be assigned to the purposes of the new institution, they should appoint the professors and the other members of the staff, they should determine the departments and subjects of instruction, they should control the arrangement of the courses of instruction and the award of diplomas, and they should make provision for the protection of students now in the constituent institutions and of the existing diplomas. Further, in each of the departments of the new institution the governing body should appoint a board, not necessarily consisting of members of their own body, and including members of the teaching staff and persons with practical experience of industrial requirements, to give expert advice with regard to such particulars connected with that department as the governing body may refer to them.

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* *A Guide to Income and Property Tax Assessment and Recovery.* Complete with forms and full illustrations for taxpayers. By H. Theobald, incorporated accountant. (London: The Pioneer Press, 2 Newcastle Street, Farringdon Street, E.C. Pp. 124 and vii. Price 3*s.* 6*d.*)

We recommend that it be an instruction to the governing body to enter into negotiations with the University of London, with King's College, and, pending its actual incorporation, with University College, with regard to the co-ordination of the engineering work of these colleges with that of the new institution. If, for the purpose of carrying out such co-ordination, funds are needed, either for transferring the engineering departments of one or both of these colleges to South Kensington, or for carrying on at these colleges work of an advanced type which would otherwise be done at South Kensington, or in aid of any other arrangement for that purpose to which the governing body may agree, we recommend that the governing body be authorised to incur such reasonable expenditure as may in their opinion be necessary. Subject to such arrangements, we recommend that instruction in the higher branches of technology should, as far as possible, be concentrated at South Kensington. In the establishment of new departments we do not think it will be possible at present to go much beyond the various branches of engineering, with mining and metallurgy, though we hope provision may be made later for other subjects. We think the principal technical and engineering societies should be consulted as to the departments most requiring development and expansion, and as to the number of students for whom it is desirable to make provision in each department. In view of the character of the subjects which will, it may be expected, predominate on the South Kensington site, it must, we think, before long become a question whether the Biological Department of the Royal College of Science shall be retained there. As soon as this question becomes ripe for settlement the provision to be made for that department will be a matter for negotiation.

It may be found possible, even in the immediate future, to make arrangements for the establishment of departments dealing adequately with the greater number of the special sections of applied science. Thus it would seem that certain of these departments might be accommodated in the buildings of existing London institutions, while for others special accommodation would fall to be provided at once in the first additions to the buildings already available on the South Kensington site. For example, in view of the character and standard of the work now carried out by the Central Technical College, we think prominence should be given in the new institution to certain specialised developments of mechanical and electrical engineering.

We have already reported that we think a fully equipped Central School of Mines should be maintained, providing a full course of instruction in mining and metallurgy, especially in the mining and metallurgy of metals produced in India and the Colonies, but not found in workable quantities in the United Kingdom. This would constitute one department of the new institution. In this, as in the other departments, care should be taken that the specialised and advanced instruction is organised with due regard to provision already made elsewhere—for example, it would probably be undesirable to include provision for advanced treatment of the metallurgy of iron and steel.

It should be borne in mind that the traditions and prestige of the Royal School of Mines and the associateship of that school are valuable assets, and we think care should be taken to preserve those traditions and that diploma.

At first, at any rate, we think preliminary training should be given in the new institution. But, while on the one hand we do not recommend that admission to the higher technical courses should be limited to students who obtain their preliminary training there, on the other hand we think that, both as regards the general education of the students admitted and the character of the teaching provided, this preliminary branch of the new institution should be organised with the definite intention of preparing thoroughly suitable candidates for admission to the advantages of the higher instruction which it is the principal object of the new institution to afford.

No student should be admitted to any specialised technical department who has not received, either in the new institution itself or elsewhere, an adequate training of a technical and scientific character such as should be common to every branch of engineering. He should have spent two years on a course of instruction in science, such as he could obtain in a well-organised college or technical institution, after having reached the standard of general education usually marked by university matriculation. An examination test should be imposed on all candidates for admission to the higher departments, except in the case of students who show, by some recognised qualification, that they have received the necessary preliminary training, and when there are more candidates for admission to a particular department than can be received, the best should be selected on a competitive basis.

The preliminary training to be given in the new institution should be of the kind which has just been referred to. It should consist of a course of two years' instruction in science, technology and engineering, of such a character as the governing body consider the most suitable preparation for the specialised courses, and it should be, in the main, common to all students proceeding to advanced instruction in any department. We have already indicated our opinion that students who have not attained a certain standard of general education are not fitted to obtain the fullest advantage from the specialised instruction of the higher departments. We therefore think that evidence of this should be required before admission to the preliminary department.

With regard to educational arrangements we recommend that, subject to reservations made by any constituent institution or co-operating body which may stipulate for the right to enter students under prescribed conditions, students should enter not for any one of the constituent institutions but for the new institution as a whole, with a view to following out courses to be arranged by the governing body.

The professors of the constituent institutions should be regarded as professors of the new institution.

There should be a principal officer of the new institution, who should be responsible to the governing body for the supervision of education and discipline in all the constituent institutions.

It must, in our opinion, be left to the governing body to work out the scheme in detail and to make statutes and regulations for the new institution in general accordance with our proposals.

SOCIETY OF ENGINEERS.

THE first ordinary meeting of the Society of Engineers for the present year was held on Monday evening, February 5, at the Royal United Service Institution, Whitehall. Mr. Nicholas J. West, the President for 1905, first occupied the chair, and presented the premiums awarded for papers read during that year, viz. :—The President's Gold Medal to Mr. Sherard Cowper-Coles for his paper on "The Metallic Preservation and Ornamentation of Iron and Steel Surfaces"; the Bessemer Premium of Books to Mr. Ernest Romney Matthews for his paper on "The Parade Extension Works at Bridlington"; a Society's Premium of Books to Mr. Benjamin Laurenson Bradley for his paper on "The Grindleford Stone Quarries and their Working"; and a Society's Premium of Books to Mr. William Pollard Digby for his paper on "Statistics of British and American Rolling Stock."

The thanks of the Society were also accorded to Mr. B. H. Thwaite for his paper on "The Transport Possibilities of our Inland Navigable Waterways"; to Messrs. C. S. Meik and Walter Beer for their paper on "The Improvement of London Traffic"; and to Mr. A. H. Smith for his paper on "Machine Drills for Hard Rock."

Mr. West then introduced the President for the present year, Mr. Maurice Wilson, to the meeting, and retired from the chair, receiving a hearty and unanimous vote of thanks for his services during the past year.

The President then proceeded to deliver his

Inaugural Address.

The President commenced by thanking the members for the honour they had done him in electing him, and expressed the hope that, advised by the Council, and supported by the members, he would be able to bring his term of office to a close with the knowledge that the Society was in an even better position than at the present time. He briefly reviewed the Society's programme of the past year, pointing out that the papers read and the visits made to works had been of a comprehensive character, and appealing to the members for their increased support by their larger attendance during the coming year. He referred to the recent election as honorary members of Lord Rayleigh and Sir Alexander R. Binnie. Despite deaths and resignations, the membership roll was within seven of the highest on record, and the finances were in a more satisfactory state than they had ever been before.

Turning to some of the notable engineering achievements of the past year, the President alluded to the erection of the bridge over the Victoria Falls in Rhodesia by Sir Douglas Fox and partners, and gave a few particulars as to its construction. He then referred to the boring of the Simplon Tunnel, pointing out that its construction would shorten the distance between Calais and Milan by 80 miles, and between Ostend and Milan by 59 miles. The tunnel was now practically completed, the ballast was being laid, and it was hoped that it would be ready to be opened for traffic in the coming June.

In referring to the opening of the new and enormous dock at Salford in the summer of last year, the President gave some interesting particulars of the work of construction of the Manchester Ship Canal, on which he had been engaged, and he paid a tribute to the skill and enterprise of the contractor, the late Mr. J. A. Walker. He gave some examples of the reduction in cost of the transit of various materials to Manchester by the canal compared with the railways, and spoke hopefully as to the canal's future prospects, showing how matters had steadily improved since the canal was opened in 1894, and mentioning that the yearly revenue had increased from less than 100,000*l.* to over 420,000*l.* in ten years. He gave some particulars of the complete and up-to-date equipment of the docks, and predicted that the canal would eventually be continued across England to Hull.

He next turned his attention to the electrification of the Metropolitan and District Railway, expressing the satisfaction which the community felt at the purification of the atmosphere. The members had paid a very interesting visit to the electric power station at Chelsea in the past summer, and he gave a few particulars of this, the largest station of its kind in the world. He was of opinion that the time was rapidly approaching when large central power stations would be erected in various parts of the kingdom for the distribution of electricity for lighting and other purposes at a much reduced rate.

The President, having next reminded the members that he had for a number of years been engaged in the early education of engineers, expressed his opinions as to the training of youths preparatory to their engineering education. He stated that a boy during the latter part of his school life should be prepared, as far as possible, in the direction that would be most likely to benefit him in after life. He was certain that, at any rate in reference to engineering, that was not done in the majority of cases.

The general effect of that state of things was that, on leaving school, a youth usually found himself so woefully ignorant that he was obliged to spend a considerable time in working up all those necessary matters for his engineering education which he ought to have learnt at school, and that without any reference to higher mathematics.

The President concluded his address with a reference to Mr. George Burt's resignation of the office of hon. secretary and treasurer to the Society. He expressed the great regret of the Society at losing his services, and read the resolution which had been unanimously passed by the Council, and a copy of which had been forwarded to Mr. Burt. He was pleased to be able to state that Mr. D. B. Butler, a past president of the Society, had been unanimously elected as the new hon. secretary and treasurer.

The Dean of Winchester, with the object of aiding the fund for the restoration of Winchester Cathedral, has had a duplicate set of slides prepared for lantern lectures on the Cathedral, which he will send on application to anyone who is willing to lecture on behalf of the Fabric Fund. Notes on the slides, for the use of lecturers, can also be sent. The amount of the fund is now close on 9,000*l.* towards the 20,000*l.* required for the restoration and preservation of the Cathedral.

THE LATE MR. INGLEBY WOOD.

The death occurred in Edinburgh on the 30th ult. of Mr. Lindsay Ingleby Wood, and by his untimely death, at the early age of thirty-three, a striking personality and a promising career has been brought to an abrupt close. He was an architect by profession, but he was perhaps better known to the public on account of his researches in the fields of art and matters of antiquarian interest. Mr. Ingleby Wood was one of the best known and recognised authorities upon old pewter, and only recently published a book of much historical and literary value dealing with the old Scottish pewter industry under the title of "Scottish Pewter Ware and Pewterers." He was a frequent contributor to journals upon old pewter and kindred subjects, and his opinion was valued and frequently sought from many quarters. He was an artist of no mean order, and his work in black and white had a striking individuality, as was shown in his sketches of "Vanishing Edinburgh and Leith." The late Mr. Ingleby Wood also acted as honorary secretary of the recent successful exhibition of "Architectural Refinements," held last autumn under the auspices of the Edinburgh Architectural Association, and to his administrative ability and untiring energy much of the success of the exhibition was due. The funeral to the Dean Cemetery, where the remains were interred, was largely attended by many personal and professional friends, including members of the Royal Scottish Academy and the President and members of the Edinburgh Architectural Association. A large number of wreaths bore testimony to the regard in which he was held by his many friends who will deplore his early end, and his death constitutes a serious loss to the cause of art and antiquarian research.

MESSRS. WARING'S GIFT TO LIVERPOOL CATHEDRAL.

The Liverpool Cathedral committee has issued the following statement:—Among the ornaments of our old cathedrals the magnificent carved screens and choir stalls are conspicuous. The chancel of the new Liverpool Cathedral will be more lofty and spacious than that of any existing cathedral in England, and the stalls in the choir to be fitted to such a position must be of specially beautiful design and of suitable proportions. A series of stalls of remarkable beauty and simplicity has been designed by Mr. G. F. Bodley, R.A., and the Liverpool Cathedral committee has just been informed that it is the intention of Mr. S. J. Waring (the head of the well-known firm of Waring & Gillow, Limited) and his sons to present the entire series of stalls to the cathedral in commemoration of their long connection with the city of Liverpool, in which their business originated. The generous gift is, of course, a personal one, but although Messrs. Waring & Gillow, Ltd., do not contribute to it, it is anticipated that the work will be carried out by special workmen in their workshops. No exact estimate of the cost of the work can be given, but owing to the great size of the stalls and the detail of the carved work involved, the cost must be very large—probably not less than 8,000*l.* But the gift, apart from its magnificence, is specially gratifying to the committee as a recognition of the old custom that those who possess special skill in any art should contribute by means of that art to the enrichment of our great churches, and because the circumstances attending the gift are a guarantee that the work will be done in the best possible way and as a labour of love.

Sir Edward Fry, chairman of the Court of Arbitration under the Metropolis Water Act, has sent a letter to the Metropolitan Water Board, in the course of which he says:—"For the year of our chief labours—October 29, 1903, to October 29, 1904—I have received as remuneration a sum of 5,000*l.*; for the intervals before and after that period much smaller sums. I do not desire to retain for my personal use in respect of my services in any year a larger sum than 1,500*l.*, the difference between the salary I received as a Lord Justice of Appeal (5,000*l.*) and the pension which I receive as a retired Lord Justice (3,500*l.*). From the 3,500*l.* thus set apart I deduct 168*l.* 9*s.* 8*d.* for the income tax I have paid on that amount, and a sum of 250*l.* which I have presented to the Institute of Mechanical Engineers, in recognition of their courtesy and in addition to the sum voted by your board, and for the balance, 3,081*l.* 10*s.* 4*d.*, I now enclose my cheque and beg its acceptance by your board." The amount will be put to capital account.

NOTES AND COMMENTS.

In connection with the Seventh International Congress of Architects, to be held in the Grafton Galleries, London, in July next, there will be a chronological exhibition of drawings of English architecture from the Norman Conquest to the death of Sir Charles Barry in 1860. In addition there will be shown a collection of oil-paintings and water-colour drawings by known painters, which treat of architectural subjects. Many of these are scattered throughout the country in private collections. It is hoped that all those who know the whereabouts in private collections of any such paintings or drawings will communicate with the secretary of the executive committee, the Institute of British Architects, 9 Conduit Street, London. Such an exhibition of purely British work should be made as representative as possible in view of the forthcoming visit of our foreign architect *frères*.

Ruskin, when describing the trouble he had taken to seek out and arrange drawings by Turner, and of the indifference to them on the part of the public, said it was to him a frightful discovery that the most splendid genius in the arts might be permitted by Providence to labour and perish uselessly, and that in the very fineness of it there might be something rendering it invisible to ordinary eyes. The amazement of Ruskin must now be felt by many of the people who have visited the Gallery at Millbank this week. There they will see a roomful of examples by Turner, many of which have been allowed to remain during several years in the store-rooms of the National Gallery. About twenty will be found to be unknown to the majority of visitors. All of them possess the characteristics of the master. He never painted finer waves than are to be seen in the views on the Solent, and the *Regatta on the Medway* recalls the treatment of trees and figures which he adopted in some of his Italian pictures. Turner could be exact; but in his best works he had the courage to introduce much which no realist could perceive if he were treating the same subject. Some, no doubt, are greatly changed. *The Exile and the Rock Limpet*, which was supposed to recall Napoleon, is now a wreck, and allowances must be made for others for the injurious effects of time in destroying or changing the colours. But enough remains to suggest, without the aid of other examples, the greatness of the artist. The visitors to the Tate Gallery will also have the satisfaction of seeing some drawings and sketches by Alfred Stevens which have unusual interest.

A by-law made by the London County Council under section 16 sub-section 2 of the London Public Health Act, 1891, provides that, "where a sanitary authority arrange for the daily removal of house refuse in their district . . . the occupier of any premises in such district . . . shall, at such an hour of the day as the sanitary authority shall fix, . . . deposit on the kerbstone or on the outer edge of the footpath immediately in front of the house, or in a convenient, accessible position on the premises, as the sanitary authority may prescribe by written notice served upon the occupier, a movable receptacle in which shall be placed for the purposes of removal . . . the house refuse." The King's Bench division has held, in the case of the Mayor of Wandsworth *v.* Baines, that a sanitary authority cannot compel an occupier to place his house refuse on the kerb if he places it in a reasonably accessible position upon his premises. It would have been a most unfortunate thing, both from the point of view of the public who have occasion to pass along these roads, and from the point of view of those who reside there, if the sanitary authority could have compelled every householder to place his dustbin thereon in order to facilitate the collection of the refuse. And what the sanitary authority of one locality did under the London Public Health Act, the sanitary authority of another locality similarly situated could imitate, irrespective of the character and circumstances of that locality. This decision delivers residential neighbourhoods of the "eligible" class from the fear that an inconsiderate sanitary authority will be able to create a serious nuisance under cover of the London County Council by-laws.

It was a shrewd act to select the unfinished Rue Réaumur in Paris for a competition of façades. By that means unusually attractive buildings have been erected, and the speculators of the future will feel bound to rival the premiated buildings. Four gold medals have been awarded. M. Walwein has gained one for a house in the Louis Quatorze style; MM. De Montarnel have gained the reward for a structure in steel and stone, which evinces a desire for novelty without much regard for ancient styles. The architect of the third building is M. Bousson, who has employed a somewhat Classic style. M. Jacques Hermant's building is of a Louis XVI. type, and the most prominent feature is a clock tower. The builders will receive similar medals, but of bronze, and the proprietors will be allowed a reduction on their share of the expenses in making a new street. A similar competition in London might be an impetus to building of a superior class.

ILLUSTRATIONS.

TOWN HALL, WOOLWICH.

A NEW town hall was a necessity in Woolwich, owing to the inconvenience caused by the distance between the offices of the different departments. A site, having an area of about 9,000 square yards, was obtained for the building, which was opened last month, and of which Mr. A. Bramwell Thomas is the architect. Messrs. Johnson & Sons, of Leicester, were the builders. Including furniture and equipment, the cost was about 80,000*l.*, and, in addition, the site cost 15,204*l.* The town hall has a façade of 114 feet towards Wellington Street, and the depth is 230 feet. The height of tower and belfry is 130 feet. There are stained-glass windows with representation of events in the history of Woolwich. In the building are the council chamber, committee-rooms and seventy offices, and a hall which can accommodate 750 people.

SOCIETY BUILDINGS, NEWHALL STREET, BIRMINGHAM.

THIS building has been erected to suit the requirements of local scientific societies, medical practitioners and professional men generally. The ground floor is separately approached by the central entrance, the first floor by a side entrance, and the other side entrance supplies the remainder of the building, including a large lecture hall on the third floor for the use of the societies. The general contractor was Mr. S. F. Swift, of Birmingham; the electric lift was installed by Messrs. Holt & Willetts, of Cradley Heath; "Fram" partitions were used to divide suites of rooms; the stonework for the front was supplied by the Empire Patent Stone Company, of Leicester.

The name Society Buildings has been altered to "Avebury House," and the building was erected while the firm was Gilbert Smith and Marcus Type—*i.e.* before they mutually dissolved partnership.

SAVINGS BANK, ABERDEEN, N.B.

CATHEDRAL SERIES.—TRURO: VIEW FROM NORTH-WEST.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last, Mr. John Belcher, A.R.A., President, in the chair.

Mr. Alexander Graham, hon. secretary, said it was with great regret that he announced the decease of an old and distinguished member of the Institute, the name of one who was known to nearly every one present at the meeting, and who had left behind him a very pleasant memory. John Pollard Seddon was an Associate in 1852, Fellow in 1860, and for many years a member of the Institute Council. He was also one of the hon. secretaries from 1862 to 1867. A vote of condolence and sympathy was passed to the relatives of the deceased.

Royal Gold Medal.

The President announced that the Council intended to submit the name of Sir L. Alma Tadema, R.A., for the Royal gold medal, subject to the approval of His Majesty the King.

Reviews of the Works submitted for the Prizes and Studentships, 1906.

Mr. J. W. Simpson read the following:—

The duty laid upon me to-night of criticising the students' work is an honourable one not to be lightly undertaken. It is evident that for criticism to be useful it must be sympathetic; unless the critic can divest himself of personal bias, and regard the work under review from the author's standpoint, he can neither appreciate how far it is successful in attaining the ideal of its creator, nor usually indicate in what respects it may be improved. It is of no help to a student struggling with an imperfectly expressed conception of a thirteenth century church, having a tower at the crossing, to advise him to adopt a plan based upon that of a Grecian temple, and employ a Systyle Doric order. He must be led to an intelligent comparison of his own design with those of the great Gothic masters—to consider the proportions of his tower, and the manner in which it will combine with the other features of his building. His mouldings must be criticised in relation to their positions in the work, and their effect in emphasising its horizontal and vertical lines respectively; the voids and solids, the sky lines and projections, scrutinised in relation to the general mass and grouping under various aspects.

Yet, how is it possible for an artist, who is convinced that his own conception of beauty is the true one—and without that conscientious conviction he is neither fit to criticise others nor to meddle at all with art—how is such an one, I say, to divest himself of his beliefs, and point out with honesty another road to perfection? Balzac, you will remember, said of the sculptor Steinbock, in "La Cousine Bette," who, bewitched by Madame Marneffé, proved recreant to his art: "Enfin, il passa critique, comme tous les artistes qui mentent à leurs débuts."

Well, sir, I do not wish to accept Disraeli's definition of a critic, as one who has failed in literature and the arts, as a reason for my being here to-night; and the paradox I have suggested above may be left to be argued by more learned casuists than myself.

But with your permission I will, before considering the work of the students, venture a criticism upon that of the sub-committees who have reported upon the drawings submitted for the several prizes. It has been their duty to examine and discuss them in detail—a duty involving long and anxious consideration of the work of each candidate, and one which I know by experience is fulfilled with the greatest care and thoroughness. The reports made to the Council by these committees were placed in my hands for the purposes of this paper, and I was struck by the fact that a great part of their labour is in almost every case lost to the Institute by reason of their referring only to those designs recommended to the Council for distinction. If the respective secretaries were instructed to embody in the reports some notes of their committee's views upon each design which was worthy of serious consideration, the record would be of great value for the instruction and guidance of future competitors. The information, after the edition of confidential matter, might be printed in the Journal, and would be of permanent interest as the considered criticism of men selected for their special knowledge of the subjects dealt with.

I ask your pardon, sir, for this digression, and proceed to the proper subject of my paper.

My task is, on the whole, a pleasant one. The prizes are, except in one case, well contested, and the standard of the work submitted is distinctly above the average. It may be said, for the greater glory of the prize-winners and the encouragement of the unsuccessful, that several competitors who are, alas! in the latter category, would have been in the front rank in any average year.

The Essay Medal.

Taking the Institute silver medals first.

The Essay Medal has brought out six competitors; but I am betraying no secret in saying that the Council is by no means satisfied with the quality of the work offered by candidates for this important prize. Whether it is that the younger men are intimidated by the prospect of competing under an age limit, which is, in my opinion, far too high, and that the older men are unable to find time to enter for it, I cannot say. Certain it is that the literary quality of the essays is by no means what it should be, or what we have a right to expect from the number of well-educated men in our junior ranks. I think myself that the small publicity which attends the gaining of this prize has much to do with it, and that the Council should take some steps to ensure the winner attaining an equal meed of fame with that of his fellow-concurrent for the Measured Drawings Medal, whose work is seen of all men. We must remember that the dearest reward to the artist is the appreciation of his work by his fellow-artists. I dare not inquire how many of us have ever read the work of any Essay prize-man!

The Measured Drawings Medal.

It is with pleasure that I turn to the measured drawings. Messrs. Coombs & Poley well deserve their triumph, and the Council had great satisfaction in awarding the medal to each. The drawings of Christchurch are an excellent and beautiful rendering of a fine subject, and the value of such a study to its delineator is incalculable. I could wish that the small scale drawings had been supplemented by full ½-inch details. The Hampton Court work is shown with a clean expressive line, and the last word would almost seem to have been said as to Wren's work in this building. Mr. Lovell's drawings of Santa Maria dei Miracoli are a careful, useful and thoroughly student-like set. It is to be regretted that he has adopted the practice of "blocking up" the full-size moulding profiles; it gives a misleading double outline and falsifies the contours. A grey wash, or any method which gives a soft instead of a hard line to denote the undefined side of the solid, is of great assistance in appreciating its true form.

"Try" and "Sansovino" send good and conscientious renderings of St. Peter Mancroft, Norwich, and the Library at Venice respectively—excellent subjects, but the drawings not, perhaps, quite up to Silver Medal standard. Two competitors give: one the Grand Trianon and the other the Petit Trianon, but neither quite succeed in expressing the feeling of French Renaissance work; its dainty precision suffers from any want of finish, or coarseness, in drawing. St. Stephen's, Walbrook, is presented by "Reflex," and here again I note a want of that refinement which is essential to the effective delineation of Classic detail.

The Kensington Palace Orangery has attracted several students, and "Wren" shows its details, such as they are, with sympathy. Drawings of the Château de Montmirail, Sarthe, and of Castle Menzies, Aberfeldy, complete the list of works submitted.

I do not propose to pillory those competitors who have not yet arrived at such a degree of proficiency as to place them within measurable distance of this prize by direct criticism of their work. The comparison of their drawings with those of the successful sets will teach them more in ten minutes than they would learn from a lifetime of talk. But I would ask those whom the cap fits to appropriate to themselves certain of the following remarks:—

The choice of a subject is of great importance to the student who proposes to undertake its measurement, for the ultimate object of the enterprise is not the mere preparation of a set of drawings, but that intimate knowledge of and familiarity with the work which can be acquired only by a patient and detailed analysis. It is to this end that the Royal Institute encourages such studies by the offer of its medal. The opportunities which the architect-student has for dissecting the entire anatomy of an important edifice must be limited by the time at his disposal, and this time becomes, in the natural order of things, more and more difficult to obtain as the other duties of his life increase. Few of us can hope to achieve the complete description of more than one or two subjects of the first class, before other claims compel us to restrict our studies to less elaborate memoranda of their essential points. We in

Great Britain who desire (and who does not?) to acquaint ourselves with the subtle beauties of Classic art are under the disadvantage of living remote from the great masterpieces of Greece and Rome. We must be content to study them at second-hand by means of books, or must spend time and money in travel that we may see them ourselves. But we have at our very doors a profusion of the most excellent Gothic work that the world can show, and I commend its study to you not only as affording the finest possible technical exercise in draughtsmanship, but as tending to great flexibility and freedom in composition.

I have troubled you with this disquisition because in some cases the subjects illustrated are quite unworthy of the time spent upon them; unless, indeed, as I hope may be the case, they have been measured for discerning patrons who desire the candidates to make "alterations and additions." The mechanical delineation of surfaces of brick wall and repetitions of sash-bars can never give the power that comes by attacking and mastering intricate and beautiful detail; and though I yield to no one in my appreciation of the picturesque qualities of the Renaissance, I hold that, regarded as an aid to the study of Classic architecture, it is somewhat worse than useless.

The Soane Medallion.

We now come to the "Soane Medallion," for which ten designs are submitted. It is the custom, and rightly so, to set great subjects in this competition as pegs for the students to hang their most magnificent ideas upon. Youth attacks heavy problems with a light heart, and Heaven forfend that "the Soane" should ever fall to a set of practicable working drawings. This year a most happy suggestion by Mr. Statham was adopted, and designs were invited for the realisation of the perfect palace described in Bacon's "de Ædificiis."

The result is more than satisfactory, and the winner, Mr. W. S. George, has my hearty congratulations on his fine production. It is imagined in a properly grandiose vein, and executed in a way which indicates artistic qualities of a very high order. The "View" is especially meritorious, showing, as it does, a riotous fancy with an admirable sense of pictorial arrangement. This design is, I think, quite the most learned parody of style which we have had since my brilliant colleague on the Council, Professor Pite, startled us with his ideas as to what a West End club should be like.

Mr. Atkinson, who takes second place, sends a capital set, the plan and detail especially well conceived; but he has somewhat lost sight of that domestic quality which differentiates the palace from the public building. The effective and careful execution of the drawing merits special mention. "Bee" has a good central Vanbrugh-like composition, marred by the restless upper parapet. The author assumes a seventeenth century latitude in spelling, but "Indigo" for "Inigo" Jones would have provoked a mild protest even at that date.

"Regal's" plan lacks imagination, and his treatment is that of an "Hôtel de Ville" rather than a mansion. "Palazzo" sends a design marked by a certain reticence and balance of composition which promises well for future efforts. His perspective, like that of many other competitors, hardly does his design justice, and his plan has another common fault in following the rigid, formal lines of a public institution. The change in his section from the outer court to the arcaded motive required in the fountain court is quite happily managed.

"Peruzzi" deserves a word for his coloured half-inch detail. "Viscount" has a good and suggestive plan, and the detail has many good points; he fails especially in his composition of mass.

"Fraxinelle" has a flexible, clever plan, with a Scoto-French feeling in design. He conveys a distinct sense of size, and his grouping in perspective is good and picturesque. The drawings do not do his work justice.

The Owen Jones Studentship.

Next in order comes the Owen Jones studentship, for which the competition has been very keen. Mr. Gascoyne, who is successful in taking the 100 guineas for foreign travel, gives admirable and delicate renderings of Italian work. His water-colour interiors show a good sense of the pictorial, though not without a certain inclination to a trick effect in lighting, which should be guarded against. Mr. Dawson sends most meritorious drawings, which I really think would have taken the studentship in any ordinary year. Mr. Davies has a remarkably beautiful set. The clean, straightforward drawing and legitimate effects of his sketches are admirable. There is to be remarked, however, a tendency to hot-brown tones in his collected work, which he has emphasised by the warm brown mounts he has adopted. A white or cool grey mount would have cleared and given transparency to his colour. Mr. Nicholson, too, another prize-winner, has not paid sufficient attention to his mounts, a point which it is a great mistake to neglect in a colour competition. His works, which are strong in colour, are so closely juxtaposed as to kill one another, and hardly do themselves justice at first sight. Mr. Jackson, the third of the "bracketed second" men, sends very careful and excellent colour studies of the Santuario at Sorrento and Santa Croce at Florence. They may be cited as examples of what this sort of work should be, and the author's very simple and direct technique is worthy of notice.

The Pugin Studentship.

The "Pugin" drawings next claim our attention, and are in no way below the general standard of excellence. Mr. Drysdale takes the silver medal and 40*l.* prize with delightful and effective sketches well worth study by other competitors. His detail is carefully and conscientiously given without unnecessary repetition. The rendering of Bishop Bridport's tomb, and the John Draper chantry screen at Christchurch, are quite masterly. His combination of brown ink writing with pencil and colour drawing is very pleasant and characteristic; he has done a great deal of good work and thoroughly earned the prize he has gained. Mr. Jordan Green comes a good second with excellent unaffected measured drawings of Abbeydore. Other candidates well to the front are: Mr. Simister, with fine clean pencil studies of Shrewsbury, and other subjects; Mr. George, the winner of the "Soane," who sends a quantity of really useful sketches, including a study of one of the *trumeaux* of Amiens Cathedral west porch; Mr. Morison and Mr. MacLucas, who have each a mass of good conscientious work collected from many sources. Mr. Milne sends capital water-colour sketches and pen-and-ink notes, but wants rather more measured work. The remainder are all quite good, but their sketches, though invariably studious, are a little thin in quality, and in some cases insufficient in quantity. Nevertheless all the twelve competitors are strong enough to have taken a "lot of beating."

The Godwin Bursary.

The Godwin Bursary is next on my list, very worthily won by Mr. Inigo Triggs. I hope I may not be indiscreet in saying that the only doubt in the minds of the Council was whether the proposal of the author to study the "Laying out of public squares and open spaces" fell strictly within the terms of the trust deed. Their decision in the affirmative I awaited with trepidation, and learned with relief, for I fear the suggestion I made in my paper on this subject last year may have influenced the author's choice. I mention this that students may be careful how they adopt any advice of mine in future. Mr. Corbett was placed second out of five concurrents.

The Tite Prize.

For the "Tite" certificate and 40*l.* there are no less than twenty-one competitors, the subject set being "An open-air swimming bath." Mr. Horsnell is placed first with a really fine conception. His plan is thoroughly artistic, and the design is naturally and unaffectedly that of an enclosed space and not of a covered building. The pencil perspective is coarse, and does not adequately express the enclosing of the bath, and the half-inch detail is unfinished. The merits of the design are so great that it is deservedly placed first; but I would warn future competitors that this success is not to be taken as a precedent for unstudentlike finish in their work.

Mr. Pearson takes a medal of merit for a vigorous and good attempt to deal with a difficult elliptic motive. His outer colonnade, though effective, requires more thoughtful planning to justify it, and the entrance blocks occur too abruptly, and do not quite wed with the columnar treatment. The drawings are very admirable. Mr. Wright, who receives an "honourable mention," has a design marked by refinement of detail. His treatment of the projecting staircase blocks shows want of consideration of their side returns, the projections are not in quite good proportion, and the perspective, as is so often the case, rather reveals defects than unsuspected merits. These neglected returns in a façade form fatal traps to those who design in plane geometry instead of cube masses.

"Dolphin No. 2" sends an able and essentially "open-ir" design, with a good and effective washed view. His roportions are good, but the detail, which is poor and veakly drawn, must, I imagine, have destroyed his chances vith the assessors. Many of the competitors have failed to xpress this "open-air" motive, and treat their baths as rdinary buildings with the roof removed. Viewed from utside they might be casinos, town halls, or any other ublic buildings.

"Fiat Lux" sends end elevations which are absolutely cclesiastic in character, though his treatment of the bath vith an open colonnade to the garden is quite excellent. t is a pity he did not develop this suggestion further. Pleiades" has an ambitious but hardly completed design vith many good points, not the least of which is that he has imed high. "Bo'sun" has a good idea in the terrace-oofing to his colonnade, but his detail is poor and the inter-olumniations unpleasant, the voids being too square in orm. "Hodden-Gray" sends a design well drawn, but ardly student-like enough in detail. The masonry of the arapets is too heavy, and the central entrance very unatisfactory as regards the panel over the arch.

"Cui Bono" has a vigorously drawn set showing a really ne sense of massing. The interior is, however, rather thin" in design, and hardly carries on the solidity of the xterior. The author has destroyed the scale of his perpective by filling in the circular openings with black, which orces them into undue prominence, and is fatal to all uggestion of aërial perspective. I mention this design for s merits, but it is clearly disqualified as not complying vith the conditions of the competition. "Seed," "1905," nd "Aqua," with a Palladian design of merit, all deserve ention. "Aristobulus" fails in the treatment of his ternal angles and rounded seats. "Ajax" shows some ood composition in his section, but the whole design is lovenly in execution. "E pluribus meum," "Michelnge," and "Ultra" show some promise; the first fails in cale, the second is lacking in imaginative quality, and the at domes of the third require more apparent solid support.

The Arthur Cates Prize.

The Arthur Cates prize of forty guineas has produced nly one competitor, and Mr. Markham, to whom it falls, as thoroughly earned it by honest and good work. It is rious that this prize has not attracted more attention, as great part of work required is already done by every ndidate who passes the final examination at the first tempt.

Grissell Medal.

The Grissell Gold Medal and ten guineas is given this ear for the best design for a stone skew bridge. The prize awarded to Mr. Nott, for an excellent and simple scheme oroughly well worked out. His design for the pylon iers would be better if the niches and brackets in the wer portion were omitted. The upper parts are too thin proportion, and rather slab-like when viewed from the de.

Although this prize is primarily one for construction ther than for beauty of design, it must not be forgotten at construction which results in unlovely form is architurally bad.

"Bydand" gives an elaborate Italian design with exnsive abutments. The remaining designs show much eritorious, though, I fear, misdirected work.

Ladies and Gentlemen,—Here is the younger generaon knocking at the door, as Ibsen says; and we hear their gorous strokes for the prizes of the year without any of alvard Solness' misgivings. The better the students' work e better is the prospect for British architecture; and we elcome all such as are worthy within our portals. I offer y congratulations to the Royal Institute upon its students, d to the students upon their fine performances, comending to them Ben Jonson's description of "The True rtificer":—

> He knows it is his only art, so to carry it as none but artificers rceive it.

The President then distributed the prizes; a list of the ccessful competitors was published in *The Architect* of nuary 26.

Address to Students.

I propose to put before you this evening a few sugstions as to the methods—or rather, I should say, ethod—of constructive thought in design. As a matter of ct, there is only one such method for any artist, whatever the vehicle he choose to work in. The arts are all osely allied—at any rate in their methods—and the order of thought-development in each is one and the same. My friend Albert Gilbert, the sculptor, once insisted that there was another way, called the "fluke," and that he was sure from his observation a great many more designs were produced in that than in any other way. But surely this must be a libel. I won't venture on the statement that I have had no experience of that sort, but I am not anxious to talk about it, and it wouldn't help you if I did. For the one thing the youthful aspirant needs most to have rubbed into him—in season and out of season, if necessary—is that without hard study and adequate thought he will never do anything really good.

The intelligent study of mental processes in design, and the knowledge of the order of thought to be observed, is not unimportant; for, though many follow this order instinctively and unconsciously, yet, seeing that our mental faculties are our armoury, it is good to know what weapons we have at our command, and how and when to employ them. I am not a philosopher—not even a psychologist; but I have observed and analysed mental processes both in myself and others; I have also gathered light from the analogy that exists in the arts generally—and so I hope that I may be able to say something on this point that will help you in your work. First of all, then, and as a preliminary, a suitable environment must be found. Not necessarily a literal environment of persons, places, and things, but, at any rate, of thought and mood. Environment is nowadays more a matter of character and temperament than of locality. Whithersoever a man betake himself, it needs powers of self-government and mental concentration to escape the insistent shouts of commercialism and the prosaic business claims which are so apt to usurp an undue share of our attention. Yet, if the imagination is to be free for visions of beauty or even of dignity, if thought is to rise to the expression of noble purpose, the soul of the man must be able to take flight on occasion into the "serene" of the summer sky, leaving the earth and its cares to look after themselves for a time. Psychologists tell us that moral education is dwarfed, or even impossible, unless a man has a certain amount of leisure time for the free play of his moral faculties. Certainly, too, the soul of the artist will perish within him unless he learn to withdraw himself at will into the higher realms of imaginative vision, where no sordid purpose or ignoble thought can live. Given the right conditions, we may now proceed to analyse the working of thought in design. Let us remember, in the first place, that architecture "speaks." The power of speech—the noblest of gifts to man—is seen in all true art. In language words are symbols, and by their combination into sentences thought is conveyed, the punctuation of such sentences into primary and subordinate clauses, together with other qualities of proportion and rhythm, determining the value and relation of the several ideas expressed therein. Exactly the same in architecture—forms are combined to appeal to the imagination and express purpose. One form of opening in a wall will convey the idea of ingress or egress, another the means of looking out or receiving light. This may be called the "simple sentence," or, if you like, the prose statement of architecture; but when we proceed to the higher forms of combination, to the moulding of these symbolic forms into sequences and rhythmic order, then we begin both to express and to appeal to the higher kind of poetical and imaginative thought. The same laws or principles hold good for the work of the painter and sculptor, both these arts in their higher qualities possessing the power of conveying to and impressing upon the imagination much more than they actually portray. In music we have the most ethereal medium for speaking to the heart of man. Just as poetry can convey more than prose, just as there are musical sounds too high-pitched for the ear of man to catch them, so there are thoughts and emotions "too deep for words," for which music provides the only adequate vehicle of expression. Architecture has been termed "frozen music." Like both music and poetry, it is subjective in its appeal, for the same arrangement of lines and colours will suggest fifty different things to fifty different persons. A fine and imaginative work will reveal to each individual some vein or mood of his own, and this above and beyond what was actually present in the mind and purpose of the architect. Every true work of art possesses an inherent energy which will sway the imagination of others and discover to them meanings of which the artist himself is unconscious. The imagination, then, must be allowed a definite place, both in the production of a design and in that reflection which it induces in the beholder.

A good design usually has a definite origin in a germ idea, from which, as from a bud unfolding itself, must be slowly and patiently evolved the true position and relation of the several objects and parts. In connection with this process of evolution it is worth noting that in architecture as in language the most powerful effects are sometimes gained by the simplest means. That statement is strongest which is given in fewest words—provided the words be adequate and suitable. Why? Because the mind is quicker than the lips; because the imagination can picture more rapidly than words can paint. So in our art there are occasions when the dignified and simple statement is not only the most appropriate, but also the most effective. Not that this kind of statement affords a ready escape from toil; dignity and simplicity come with experience and thought. An essential element in the production of a design—whatever the idea and purpose of the work—is "feeling," by which either sympathy or repugnance is called into play. It is by feeling that an architect makes his selection and develops and encourages definite tastes of his own. Feeling is his own private artistic assessor, to judge in the competition of the many ideas and suggestions that present themselves before his mind's eye, as it were. In the projection of a design on paper mental perspective plays an important part. Projected, as it is, on a plane surface, the relative distances of the several parts of a design can only be distinguished and appreciated at their proper value by an effort of thought. Time was, as you are doubtless well aware, when designs were produced in a kind of geometric perspective, that the author might see all round his subject; now we do this mentally or by developing each side simultaneously. During the whole process of development and selection the purpose of the work must be kept constantly in view, with the object of bringing out in stronger relief every feature and detail by which this purpose is to be conveyed. The first "idea" relating to the purpose brings with it resemblances which stimulate the imagination. The interest thus awakened, backed by knowledge, provokes to further effort, in which original thought is both checked and stimulated by association and comparison, memory and imagination acting and reacting on one another—both of them under the control of knowledge and recognised principles. The expansion of the initial thought will resemble the circling ripples produced by the stone thrown into still water—every advance leading on to some fresh development, some more extended idea. With these expanding thoughts enter other considerations, such as questions of material and proportion of parts to the whole. Secondary causes also claim our attention as we proceed—viz. incidental local features and surroundings, contrasts, ornamentation, colour, texture, &c. These are the means which the thought of the designer marshals and controls to give expression to such intangible qualities as purpose, character, manner and disposition.

Architecture furnishes posterity—unconsciously, perhaps—with a picture of the prevailing manners, customs and conditions of life. More than that, it reveals, or, it may be, betrays, the emotions and sentiments which have made each age famous or notorious. There are thoughts formulated ages ago which, having found expression in the work of the architect, are living forces to-day. The student should be impressed with his responsibility, and so systematise his thoughts as that his work may be a fitting and representative expression of the best thought of his day; for if he suffer his work to be infected with the haste and self-assertive methods of modern life, these are bound to betray themselves in every line and detail of his design. There is something much more subtle and mysterious in an architectural work than a mere orderly arrangement of materials. There is life and speech in it. If a man's character may be read in his hand, certainly it may in his handiwork. The life may be noxious, like that of a poisonous plant, or sweet and beautiful like that of a flower; or, again, it may resemble that of a noble tree—but life there is. The speech may be that of a Shelley or a Milton, or, on the other hand, of the most blatant type of "yellow" journal, but speak the architect's work must and will. It has a music, too, of its own, whether it be the music of one of Beethoven's sonatas or of the latest comic song. When you realise this—and no one can be indeed an architect who does not realise it more or less—you will approach your work with that due sense of its dignity and importance in which alone you will be able to rise to the "height of the (proposed) argument"—if I may adapt one of Milton's phrases to my own purpose. A clear perception of the possibilities both of good and of evil that open before us when work is entrusted to us—in other words, a proper feeling of reverence for our task—is indispensable if we would accomplish something noble or beautiful, or even suited to its purpose.

If an architect is to speak truly—indeed, if he is to be coherent in his message—he must follow the recognised forms, the articulate phrasing, the grammatical order proper to his art. Thought-symbols, of whatever kind, are arranged in groups of rhythmic form like musical phrases in relative keys. In architectural design this is effected by divisional lines and grouping of parts, such divisions being regulated on principles akin to those which govern musical progression and a harmony built up of sounds. Again, contrasts are obtained in music by the use of loud and soft passages, and effects by gradations of sound from pianissimo and fortissimo. So architecture makes use of "strength of tone," gradations being secured in this case by the measure or greatness of projections of the different parts; also by the varying plainness or delicacy of surface and detail. I will not carry these analogies and definitions farther. What I have already said is sufficient, I hope, to convince you that there are laws and principles governing good architecture, and that as nobody expects a harmony from a haphazard arrangement of musical notes, so neither will you do good work in your profession by chance combinations of random methods. We have now come to a point when we can, indeed, analyse no further; for there is always an element of mystery in the best architecture—a sort of haunting personality that, ghostlike, vanishes just when we think we have it in our grasp. This quality of "mystery"—so pre-eminent in Oriental buildings—is one to conjure with. Veiled under symbolic forms which hide as much as they reveal, it continually draws us on and as continually eludes us. The screening of parts provokes the mind to search further and deeper for that which is beyond the immediate range of vision. Given the element of mystery—which is perhaps the "personal equation" of art—none but the trained mind can make effective use of it. The personal element is of little avail if we have not painstakingly learnt the methods and principles of our handicraft.

One of the commonest of pitfalls for youthful designers lies in certain fanciful ideas of originality. It is easy enough to be original after a fashion. Any mere novelty will serve to astonish or startle; but if we wish to appeal to the higher faculties we must be content to let our originality find expression within the lines on which those faculties themselves work. The great German poet Goethe relates it as perhaps the greatest lesson of his early manhood—a sort of discovery that he made for himself apparently—that if he would "find himself" and enter upon his inheritance he must recognise and submit to limitations. Originality does not involve a subversion of all that is orderly. In music the gamut remains the same for one man as for another; certain combinations of sounds are pleasing, certain others displeasing, and will not change their character for anybody. So the architect can neither create new elements nor alter the emotional effects of combinations of elements; his hope lies in so training his powers of perception as that he can move freely and with a sure tread amongst the almost infinite variety of paths that open before him. Then he will find plenty of scope for originality without violating the canons of art or wandering into the realms of the unpleasing. Sir Joshua Reynolds considered that "excellence is the direct result of trained perceptions." Certainly such perceptions are the foundation; any special powers or qualities that a young architect may be conscious of will find their place and expression at a later stage. You may rest assured they will not be thrust out or obscured; they will only shine all the more brightly for having submitted to limitations. As I have said before, the character and mind of the designer will always reveal themselves in his work. The scholarly treatment of one man will appeal to the intellect, while the grace and charm which distinguish another's work will rather sway the affections. The highest achievement, seen only at rare intervals, lies in a combination of qualities well balanced and under absolute control.

I have endeavoured this evening to show you that there is a certain order and development of thought in the evolution of a design. Mere knowledge will not suffice. Something more is needed than a reproduction of the past or a mere application of mathematical formulæ. If a student labour with but little thought he may attain to a dazzling skill, but he will neither stir the heart nor convince the mind. The search for the ideal lies ever upwards and onwards by the way of severe mental discipline. Let us remember, in the words of Philip James Bailey:—

> We live in deeds, not years; in thoughts, not breaths;
> In feelings, not in figures on a dial.
> We do not live by heart-throbs; he lives most
> Who feels most, thinks the noblest, acts the best.

Mr. Edmund Gosse, in proposing a vote of thanks to the President, said it seemed to him that the whole world as regarded architecture was divided into three very unequal divisions. There was the enormous majority of persons who knew nothing about the art at all, and who did not know a good building from a bad one; there was the small and important division who had a great taste and love for architecture, but without practical knowledge of it; and then there was the body consisting of the Fellows, Associates and students of the Institute who knew everything about architecture. The keynote of the paper was sounded in the words that made them realise that order in the development of thought in the evolution of a design was the central ambition which an architectural student should hold before him, while he should always aim at purity, dignity and freshness of design, without giving way to being incongruous and fantastic in his work. They lived in an age when the incongruous and fantastic were popular, and it was a matter of congratulation that architecture could not go into those realms of fantasy. Much of the work which they saw about them was of an entirely dead order; but the Institute, with the President at its head, was making a very difficult and dangerous fight against the universal poverty of design. There was a great deal of work to be done in the development of public taste, because most of it was bad, but in spite of all sorts of difficulties and discouragements, the architects were continuing their efforts for a truer appreciation of their art among the people.

Professor F. M. Simpson seconded the vote of thanks, and emphasised the point made in the address that without hard study and adequate thought no student in architecture could hope for success. Architecture could be said to speak, and according to the way in which it spoke one could determine the character of the man who made the design. There was an old quotation that the good that a man does lives after him. In the practice of architecture there was something more than that, for the bad work survived as well as the good. It was by the amount of good work that they could judge an architect's character. The best expression of Cockerell's refinement, scholarly skill, and, above all, the depth of his youthful studies was to be found in his work, but the knowledge that gave him his power was gained long before he achieved success. In conclusion, the speaker said he thought all present, and especially the younger members of the profession, would feel grateful to the President for the address, wherein he had laid stress upon the value of cultivating the imagination in order to conceive, and the importance of knowledge to help them to work out their ideas.

The President, in bringing the evening to a close, said that at a special meeting to be held on February 20 the following resolution would be moved:—"That the Institute do purchase the freehold site between Nos. 11-13 Portland Place, London, at the price of 19,500*l.*, and do erect thereon a building to include the offices and hall of the Institute, at a total cost including the purchase of the said site, and for the erection of the said building, and that the Council be authorised to raise by the sale of stock belonging to the Institute, and by mortgage of the said site and building on terms to be approved by the Council, such money not exceeding in the aggregate the sum of 53,000*l.* as may be necessary for the purpose of the purchase of the site and the erection of the building."

IRON AND STEEL ROOFS.

A PAPER was read before the Manchester University Engineering Society on January 31 by Mr. W. Noble Twelvetrees, M.I.Mech.E., &c., on "The Charing Cross Disaster and the Safety of Iron and Steel Roofs." After describing the accident at length, the author treated of the conclusions suggested by the failure. He said:—

Among the more important of the points suggested by the foregoing discussion of the Charing Cross roof failure are the following:

1. That welded tie-bars, made in the days of wrought iron and still remaining in large roof structures, should be supplemented, especially if not in duplicate, by auxiliary tension members. The most convenient manner of applying such reinforcement will probably be found in the employment of steel cables, as adopted by Sir Benjamin Baker in the case of the Crystal Palace roof, and later from end to end of the principals in the Charing Cross Station roof.

2. That the connections between the main members and the bracing of roof structures should be as secure as possible.

3. That wind screens should be designed so as to provide that such structures shall not have the effect of decreasing the safety of the roof.

4. That the practice of mounting large roof principals upon lofty walls, and especially when the level of the site is such that the height of the walls is further increased by the substructure as at Charing Cross, involves risks of so serious a character in the event of unforeseen failure as to make this type of design extremely undesirable.

A suggestion not arising directly out of the Charing Cross failure is that the imposition of roof trusses upon exceedingly lofty supports renders inspection and maintenance unnecessarily difficult and costly. Owing to this feature, it is by no means improbable that the Charing Cross and Cannon Street Station roofs have not received the same amount of attention that would have been accorded had they been situated at lower levels. The author does not for a moment mean to imply that these roofs have been neglected. The Cannon Street roof has recently been thoroughly overhauled, and there is ample evidence to show that, since his appointment in 1899 as chief engineer to the South-Eastern & Chatham Railway, Mr. Tempest has been particularly careful to satisfy himself that the Charing Cross roof was properly maintained.

Of course after more than forty years of existence it is only natural that the metal should have been diminished in thickness by the effects of corrosion, and this is in itself a sufficient reason for a radical departure from some forms of design that have prevailed from the early days of iron roof construction, almost up to the present date. Most of the railway station roofs built since the middle of last century are representatives of the two great orders of truss construction and arch construction. Some designers have preferred one type and some the other, but there has been a general agreement as to the necessity for building spans of great width so as to provide unobstructed space for the requirements of traffic managers.

Roofs of the Charing Cross Type.

The roof of New Street Station, Birmingham, with a maximum span of 212 feet, may be regarded as the prototype of what is here termed the Charing Cross type. The Birmingham roof, designed in 1851 by Messrs. Fox & Henderson with the assistance of the late Mr. R. M. Ordish, is a magnificent specimen of early engineering skill in serviceable condition. About the same time Mr. Berkeley built the Fenchurch Street Station roof, with the span of 106 feet, and presenting the praiseworthy feature of duplicate tie-bars. Charing Cross and Cannon Street Stations followed in quick succession, and among other well-known examples of kindred design may be mentioned the roofs of London Bridge Station (L.B. & S.C.R.), Blackfriars Station, London, and Lime Street Station, Liverpool. Two of these roofs are worthy of special remark, for the reason that the main tension members were duplicated. The Blackfriars Station roof, now taken down, was of excellent design, and the employment of duplicate tie-bars gave that element of security which is so much to be desired. The extension of the Lime Street Station roof, completed in 1875, has a span of 191 feet, and is a very fine example of practical construction which it would be difficult to improve upon in the present day. Apart from its other meritorious features, the roof is quite safe from any accident such as that which overtook the unfortunate structure at Charing Cross, as with four solid-forged links in each length of the main tie, one or two bars in every length might break without involving the collapse of the roof. Another form of design generally resembling that adopted at Charing Cross, although differing in points of detail, is represented by the roofs of Victoria Station (S.E. & C.R.), London, the Central Station, Liverpool, and Queen Street Station, Glasgow. But in these three roofs single tie-bars are relied upon to take the thrust of the principals, which, in view of the fact that the spans measure 129 feet, 160 feet, and 170 feet respectively, cannot be regarded as a satisfactory feature.

The foregoing are only a few of the numerous roofs that have been built in the United Kingdom of design similar to that of the Charing Cross roof, and it is a significant and reassuring circumstance that the latter is the only structure of the kind that has developed any serious defect.

Arched Roofs.

The Paddington terminus, London, may be mentioned as the first railway station to be covered by wide and lofty spans not requiring the employment of tie-bars. The roof was built from the designs of Brunel about 1856, and includes three arches, a central span of 103 feet 6 inches, and two side spans of 70 feet and 68 feet respectively. King's Cross Station, London, was really the first railway station to be arched over, but the original structure consisted of timber ribs. These were erected in 1851, but the two spans have been replaced by wrought-iron ribs of similar design in 1869 and 1887 respectively.

St. Pancras Station, London, built in 1867 under the direction of Mr. W. H. Barlow, F.R.S., from the designs of Mr. R. M. Ordish, represents a type that may be considered as arch or girder construction according as the thrust of the main rib is resisted by abutments or by horizontal ties. At St. Pancras the clear span of the roof is 240 feet, and the ribs are connected by horizontal ties below rail level, but the thrust is almost entirely resisted by the abutments. Two noteworthy examples of similar design in America are the roofs of the Pennsylvania railroad station, Pittsburg, erected in 1902, and the Baltimore Armoury, built in 1904. The former structure has a span of 255 feet, a height of 110 feet, and is of the three-hinged type, the ends of the main ribs being connected by horizontal ties between the ends of the main ribs.

It is interesting to note that when the ribs of a roof such as these are adequately tied the whole construction really constitutes a bowstring girder of gigantic proportions, and when applied to a railway station the public are actually inside the girders and walk with perfect safety upon the bottom chords which rest upon solid ground, instead of being at the mercy of girders mounted high above their heads on lofty walls, as in stations of the Charing Cross and some other types.

St. Enoch's Station, Glasgow, with a span of 198 feet, and the Central Station, Manchester, with a span of 210 feet, are fine examples of similar construction, except that they are built as genuine arches, in which the thrust is resisted entirely by the abutments.

While referring to arched roofs of wide span, the roof of Olympia in London should be mentioned as the finest example of the type in which the main arch, with the span of 170 feet, and two side arches, each of 40 feet span, are connected so that the whole forms a compound structure. This roof was built in 1887 from the designs of Mr. A. T. Walmisley and Mr. Max Am Ende as joint engineers. The manner in which the horizontal thrust of the arch and the horizontal wind pressure are taken up is distinctly novel. The whole of the gallery on each side acts as an abutment, and as the columns are fitted with ball and socket joints at top and bottom, these members are always under axial load, whatever may be the wind pressure or the irregularity of the gallery loads.

Arched roofs such as those mentioned above certainly represent the safest forms of construction for long-span roofs, because their stability does not depend upon the strength of a single tie-bar, or even upon ties in duplicate. They afford ample space for traffic without intermediate supports, and the chief objection to their employment is the heavy cost involved in construction.

Roofs of Composite Type.

To secure unobstructed space in railway stations at the lowest possible cost is a problem that has exercised engineers for many years past. One of the most successful attempts in this direction was made more than forty years by Mr. Jacomb Hood when designing the roof of the Victoria terminus of the London, Brighton and South Coast Railway, where continuous girders, extending from side to side of the station with one line of intermediate columns, support small roof trusses of the queen-rod type. The use of girders in this manner makes it possible to place the supporting columns wherever they may be most convenient, and free from the risk of injury from derailed rolling-stock.

Two stations in Glasgow are spanned in a somewhat similar manner by deep latticed girders, the more remarkable of these being the Central Station, where the transverse girders are 213 feet long by 20 feet deep, and carry ten ridge and furrow roofs of 35 feet span. Apart from their other advantages roofs of this character do not involve great risks, for the failure of the tie-bar or any other member in one principal of a small span would not be followed by serious consequences, and, possibly, would not even cause the failure of the truss affected.

Recent Types of Roof Design.

Indications are not wanting in the present day that the fashion for monumental roofs is distinctly on the wane, so far as railway stations are concerned. In several of the most recent designs for such roofs small spans have been adopted, and it is probable that the tendency to reduce initial expenditure, and the disadvantages of huge spans, will finally lead to the practice of simply covering the station platforms, leaving openings above the lines for the free escape of steam and other destructive gases from locomotive engines.

The roof of Marylebone Station, London, is a good example of modern steel construction. The platforms, lines, and promenade are covered with light steel roofing, carried by built-up stanchions and arched girders of the Linville type. The total width of the roof is 155 feet, made up of two trussed spans of 50 feet and 40 feet respectively, and a 15-foot cantilever span. This roof is of unpretentious character, and, owing to the elegance of its construction and the absence of high side walls, renders the station one of the most cheerful and best lighted in the metropolis.

The new roof under construction in connection with the extensive widening operations at Victoria Station (L.B. & S.C.R.), London, is an admirable illustration of sound engineering design, complying alike with the requirements of traffic and the safety of the public. The total width covered, from Buckingham Palace Road to the South Eastern and Chatham Railway, is about 320 feet, the roof being divided into five spans of varying width and height. The main principals are spaced 16 feet 8 inches apart; every third principal is carried on one of a series of cast-iron columns, spaced 50 feet apart, and the others on latticed girders connecting the columns, the latter being arranged along the centre lines of the platforms, where they are safe from accidental injury. The following are typical dimensions of the chief members of the roof trusses:—The main rafters are formed of two 18-inch by 3-inch channel-bars; the main tie-bar consists of two 6-inch by 3-inch tee-bars in each end length, and two $4\frac{1}{2}$-inch by $\frac{1}{2}$-inch flat bars in the centre length; in the bracing the struts consist of channel and angle bars of different dimensions, single or duplicate according to position; the ties are flat bars of different dimensions, single or duplicate according to positions, and the vertical tie in the centre is a $1\frac{1}{4}$-inch diameter eye-bar provided with a screwed turnbuckle for purposes of adjustment. This roof is being erected from the designs of Mr. Charles L. Morgan, M.Inst.C.E., to whom the author is indebted for the foregoing particulars.

A design presenting features of decided novelty is that prepared for the Marine Station, Dover, in connection with the proposed widening of the Admiralty pier, to provide adequate accommodation for the increasing Continental traffic of the port. The station is to be 800 feet long by 200 feet wide. Three rows of cast-iron columns, spaced 26 feet apart centre to centre, carry the roof structure, the outer rows each supporting one end of the transverse lattice girders, with the span of 100 feet, which meet at the centre row of columns placed in the middle of a platform 60 feet wide. These girders are 10 feet deep, and are divided by vertical struts into panels 10 feet wide, having a double system of diagonal ties, the height from rail-level to the underside of the girders being 20 feet. The columns are continued above the bearings of the girders and incorporated into the ironwork of the double cantilever roof principals, which form 25-foot roof spans, and somewhat resemble the cantilevers of the Forth Bridge in outline. The cantilever arms project 12 feet 6 inches, and their ends carry the roof gutters, which discharge through the centre row of cast-iron columns. One side of each roof ridge is covered with sheet copper laid over felt and boarding, and the other side is glazed. All the purlins are of timber, a material selected instead of iron owing to its immunity from injury by the steam and gases emitted from locomotives; and for the same reason wrought iron was specified instead of mild steel for the roofwork generally. The new Marine Station was designed for the Dover Harbour Board by Mr. A. T. Walmisley, M.Inst.C.E., by whom particulars and drawings have been furnished for the purposes of this paper.

The three types of design described above are sufficient to demonstrate the reaction that has set in against roof spans of exceedingly large proportions, and the drawings for the new station at Charing Cross serve to emphasise the same characteristic.

On the recommendation of Mr. Percy Tempest and their consulting engineers, the railway company decided in December last to remove the existing Charing Cross roof, and to substitute a new roof of modern type at a lower level, and the work of demolition is now nearing completion. The new roof is designed on the ridge and furrow system, the ridges running at right angles across the station; the principals will be carried by latticed girders extending from side to side of the station, and these girders will be supported by the lowered side walls and by two lines of columns placed in the middle of the platforms. The total height of the roof will not be more than about 35 feet to 40 feet above rail-level, and as the side wall will be considerably reduced in height, abundant provision will be made for the admission of light, to say nothing of the other manifest advantages of the new structure.

Mr. Tempest's reason for adopting this type of design was that it will be possible to construct the transverse girders in such a way that the columns may be moved within reasonable limits to suit any rearrangement of the platforms that may become necessary, and thus to save any alteration to the structure of the roof in case widenings should be undertaken on either side of the present station. At the same time, the new roof will conduce to the safety of the public, and give increased facilities for maintenance, for the direct escape of steam and corrosive gases, and for the dispersion of sound waves.

Preservation of Iron and Steel.

In conclusion, the author desires to point to the fact that however much the design of iron and steel roofs may be improved, the question of corrosion will always have to be faced. No form of paint or other protective coating has been discovered that will effectively shield metal from the chemical action taking place in the presence of oxygen, moisture and acid. Exhaustive investigations conducted by the Pennsylvania Railroad Company upon some fifty different preparations, including forms of asphaltum, india-rubber, graphite, carbon, lead and iron oxide paints, have proved that not one of these could preserve steelwork from rust for more than twelve months.

These investigations also confirmed the facts that no known form of paint is impervious to air, and that in the case of steelwork exposed to smoke and gases, corrosion commences behind the paint, and not from the front after disintegration of the surface. It may be mentioned that ample evidence of the latter effect was furnished by the fallen ironwork at Charing Cross Station.

The proposal has recently been made by Mr. B. H. Thwaite that the application of Dr. Angus Smith's compound would effectually protect iron and steel from the effects of corrosion. As water pipes coated with this material are immune from attack, especially by water containing vegetable acids, it is somewhat doubtful whether metal under far more disadvantageous conditions would fare any better.

Sir Benjamin Baker has recently stated the difficulty of this point very clearly, saying that the trouble in railway stations arises from the gases emitted by engines, and the impossibility of getting paint to stick on. He added that no material had yet been invented to protect iron so as to enable it to resist corrosive action.

Nevertheless, it is a well-known fact that Portland cement of good quality, properly applied, is an absolute preservative for iron and steel. This points clearly to the advantages to be derived from the employment of concrete-steel, especially in railway station roofs. The material in question has been used in the United States for the construction of roof principals in spans up to 100 feet, and in this country for arched beams up to 54-feet span. Hence it is perfectly clear that railway station roofs, together with their supporting columns, could easily be built of reinforced concrete, which, as demonstrated by numerous examples of bridge construction, lends itself to light and elegant types of design, capable of enduring for centuries with practically no attention or expense in the way of maintenance.

This is the final point suggested to the author by the Charing Cross roof, not by the failure, but by the corroded condition of the fallen ironwork, which, although not worse than that of many other structures, was sufficiently marked to constitute a powerful argument in favour of a material of construction that is unaffected by climatic and other corrosive influences.

Correspondence

Assumption of the Letters "F.S.A."

Sir,—My attention has been called to the fact that a drawing of a house near Cambridge, published in your issue of 2nd inst., is both signed and lettered "H. Steward Watling, F.S.A."

As Mr. Watling is not a Fellow of the Society of Antiquaries of London, he is clearly not entitled to append to his name initials which custom and courtesy have long recognised as denoting Fellowship of that Society.

W. H. St. John Hope,
Assistant Secretary.

Soc. Antiq. Lond.,
Burlington House, London, W.

An Aisleless Church.

Sir,—It is desired to erect a church to seat 500 without any pillars in the church. Can any of your readers oblige me by telling me of any such church in the immediate neighbourhood of London?—Your obedient servant,

Jno. Mackrell.

High Trees, Clapham Common, S.W.:
February 5, 1906.

Repairing Buildings.

Sir,—Having regard to the serious depression now existing in the London building trade, and the large number of men connected with it who are at present out of employment, may I be allowed to suggest to those property owners who are able to afford the expense that the most effectual way of relieving the prevailing distress is to put in hand all necessary repairs, painting, &c., with as little delay as possible. It needs no argument of mine to prove that money spent in this way does far more good than much larger sums given in the form of charity or as subscriptions to funds for the relief of the unemployed. One cannot go about London without being struck with the state of disrepair into which so many houses are allowed to fall. If only a tithe of the work that is required were undertaken very much of the distress that at present exists would quickly disappear.

I ought perhaps to add that I have no personal interest in the building trade, either direct or indirect.—Yours faithfully,

John Price Newton.

189 Essex Road, Islington,
February 7, 1906.

GENERAL.

Mr. G. H. Willoughby, of Manchester, has been appointed assessor by the Crompton District Council in connection with the Carnegie Free Library, for which about fifty sets of drawings have been submitted by architects in open competition.

The Lectures on "Reason in Architecture," which Mr. T. G. Jackson, R.A., is delivering at the Royal Academy, are in the press, and will shortly be published by Mr. John Murray.

Mr. R. Pearson Brereton, who died on January 2 at Oundle, has left his manuscript works on Northamptonshire churches and photographs to the MS. department of the British Museum; all his photographic negatives of churches and details of ecclesiastical architecture to the National Photographic Record Association; his manuscript notes and photographs of the church towers of Somerset to the MS. department of the British Museum; and a complete set of collotype reproductions of these notes and photographs to be bound and lettered in gilt "Somerset Church Towers," and presented to each of the following:—(1) The Somerset Archæological Society, at Taunton Castle; (2) the Northampton Archæological Society, Northampton; (3) the British Museum; (4) the National Photographic Record Association.

The Foundation-stones of the free library, public offices and assembly hall were laid on January 31 at Ilkley; that of the public offices and hall by Mr. J. T. Jackson, the chairman of the committee, and that of the free library by Mr. Dixon, chairman of the Urban District Council. A silver trowel was presented to Mr. Jackson by the architect, Mr. William Bakewell, and a trowel was presented to Mr. Dixon by Mr. G. Smith on behalf of the contractors.

The Court of Common Council have agreed that, in consequence of the death of Mr. H. H. Collins, the dangerous structure inspector for the eastern and southern divisions of the City, Mr. Edmund Woodthorpe (the present surveyor for the northern division) should be appointed to act as surveyor for the eastern division, and Mr. M. L. Saunders (the present surveyor for the western division) should be appointed to act as surveyor for the southern division.

The Herts County Council have taken over Queen Eleanor's Cross at Waltham for preservation as a national memorial.

The Design of Messrs. Speir & Beavan, architects and surveyors, Cardiff, has been selected for the new free library at Pontypool.

Mr. Turner, assistant surveyor to the Bethnal Green Borough Council, has been called to the Bar. The Council, in accepting Mr. Turner's resignation, congratulated him on the distinction.

The Liverpool City School of Art, having now passed under the control of the Municipal Education Committee, have been afforded the privilege of holding its annual exhibition of the work of the students within the walls of the Corporation Walker Art Gallery. The exhibition occupies three of the large rooms usually devoted to the autumn exhibition of pictures. There are over fifty specimens of sculpture.

A Public Presentation was recently made to Professor Antonio Fradeletto, in recognition of his services as secretary of the International Exhibition at Venice. The committee selected the bronze entitled "Leda," by Mr. F. Derwent Wood, which was exhibited at the International Society's exhibition at the New Gallery two years ago.

The Council of the American Institute of Architects for the present year will consist of president, Frank Miles Day; first vice-president, Cass Gilbert; second vice-president, William B. Mundie; secretary and treasurer, Glenn Brown; directors, Alfred Stone, Irving Kay Pond, Ralph Adams Cram, Merritt J. Reid; auditors, J. G. Hill, Robert Stead.

Sir W. W. Wynn has lent his house, 20 St. James's Square, for an afternoon party on the 20th inst., which is being organised by some members of the British Association who were in South Africa last year, where many of the best photographs they took and the collection of curios they brought home will be exhibited. The object is to assist the funds of the South African Colonisation Society. The house was built in 1772 from designs by Robert Adam, and the old decorations by Angelica Kauffmann and other artists of that date are almost intact.

The Parishioners of Gayton Parish Church, Northamptonshire, have decided in favour of rebuilding the upper portion of the church tower. The cost is estimated at about 800*l.* Mr. M. H. Holding is acting as consulting architect. It was stated that in 1726 the top part of the tower was raised and bells were put up, but no builder or architect was employed, the then rector and churchwarden and others carrying out the work at a total cost of about 200*l.*

The Athy Urban District Council have appointed Mr. James F. Reade, A.M.I.C.E., of Westminster, their engineer, to prepare plans, &c., and carry out his scheme for the water supply of the town and suburbs, which was awarded first prize in the competition held some years ago. The Council have given the matter very full consideration.

The Society of Architects will hold the fourth ordinary general meeting for the session 1905-6 at Staple Inn Buildings, Holborn, on next Thursday evening, when the gold medal of the Society will be presented to Mr. Walter W. Thomas, J.P., past president. Mr. Ellis Marsland will read a paper on "The Architecture of the Cotswolds, Sixteenth and Seventeenth Centuries." Ladies are specially invited to this meeting.

A Paper on "Small Water Supplies" will be read by Mr. C. H. Shenton at the meeting of the Association of Engineers in Charge, St. Bride's Institute, on Wednesday next.

Mr. T. C. Horsfall has presented to the Manchester Art Gallery the study for *The Court of Death*, by the late Mr. G. F. Watts, as well as a copy of Raphael's *Madonna del' Cardellino.*

The Edinburgh Town Council at last week's meeting allowed to lie on the table a memorial from the Edinburgh Architectural Association with regard to the disposal of the city's architectural work.

The Discussion on the paper by Mr. Marshall, K.C., on the "Valuation of Machinery for Rating Purposes," will be resumed at the Surveyors' Institution on Monday evening.

An Offer from the Bishop Ryle Memorial Committee of 500*l.* for the erection of a memorial in the new Liverpool Cathedral to the late Bishop Ryle has been accepted, the suggested form being that of a recumbent marble effigy.

The Leith Town Council are endeavouring to organise a municipal museum with its abode in one of the recently renovated committee-rooms of the town hall, situated at 35 Charlotte Street, Leith.

Prizes having been offered by the British Fire Prevention Committee for fables for children respecting the danger of playing with fire, 286 fables and stories were sent in, and the medals and money have been awarded.

The Worcester City Council were informed on Tuesday that the Royal Archæological Institute will hold their annual gathering in the city on July 24.

An Innovation has been introduced in the Théâtre des Arts, Paris, which used to be known as the Théâtre des Batignolles. Instead of numbering the boxes they each bear the name of an ancient or modern author, such as Æschylus, Emile Zola, Tolstoi, Marivaux, Goethe, Musset, Shakespeare, Corneille, Molière, Racine, Schiller, Beaumarchais, Calderon, Dumas, Ibsen, Henri Becque and Sophocles.

Messrs. Marshall & Bradley, architects, of 31 Old Queen Street, Westminster, S.W., have removed their offices to Parliament Mansions, Victoria Street, Westminster, S.W., where all communications should in future be addressed.

An Inventors' Mutual Association has been formed in Birmingham. The objects of the Association are to bring together the inventors connected with the various crafts and industries by means of lectures, discussions, &c.; to assist and encourage each other mutually in respect of their ideas, inventions, improvements, and the like; to examine, demonstrate, or develop such as may be possible, desirable, or convenient; to protect the same by registration, letters patent, or by any other legal means secure to the author the rightful use and benefit thereof; and to agitate for the alteration of the present patent laws so that they may protect an inventor and his invention as is at present the case in other countries.

The Incorporated Association for the Protection of Property Owners at their last meeting included among their recommendations one to the effect: "That every municipal undertaking, including houses for the working classes (except in positions where the site is of great value), which does not show legitimate profit, be forthwith placed under the closest observation by the auditor, and if such undertaking cannot be made self-supporting within two years it ought to be sold or discontinued."

The Worshipful Company of Plumbers arranged a conference of representatives of municipal, educational and labour interests at the Guildhall on Thursday for the purpose of discussing the better protection of the public health by elevating the status and education of the workman. In a circular convening the conference the clerk to the Plumbers' Company stated that during the progress of the recent parliamentary elections district councils took steps to ascertain the views of the candidates on the measures considered necessary for securing the greater efficiency of health and water administration relative to these objects, and "this has resulted in very general expression of opinion as to further legislation being necessary. As the basis of British industry and prosperity is manifestly bound up in the systematic development of craftsmanship among industrial workers, and this in its turn associates the interests of citizenship in many of its widest and most important aspects, the discussions of the conference are looked forward to with much interest."

The Council of the Geologists' Association in their annual report have proposed that, in consequence of the cost of maintaining the library, and having regard to the small number of members using it, it should be handed over to University College. In return the college would keep the books in repair, and the members of the Association would have the use of the whole science library of the college. After discussion it was decided to postpone further action until the opinion of all the members has been obtained.

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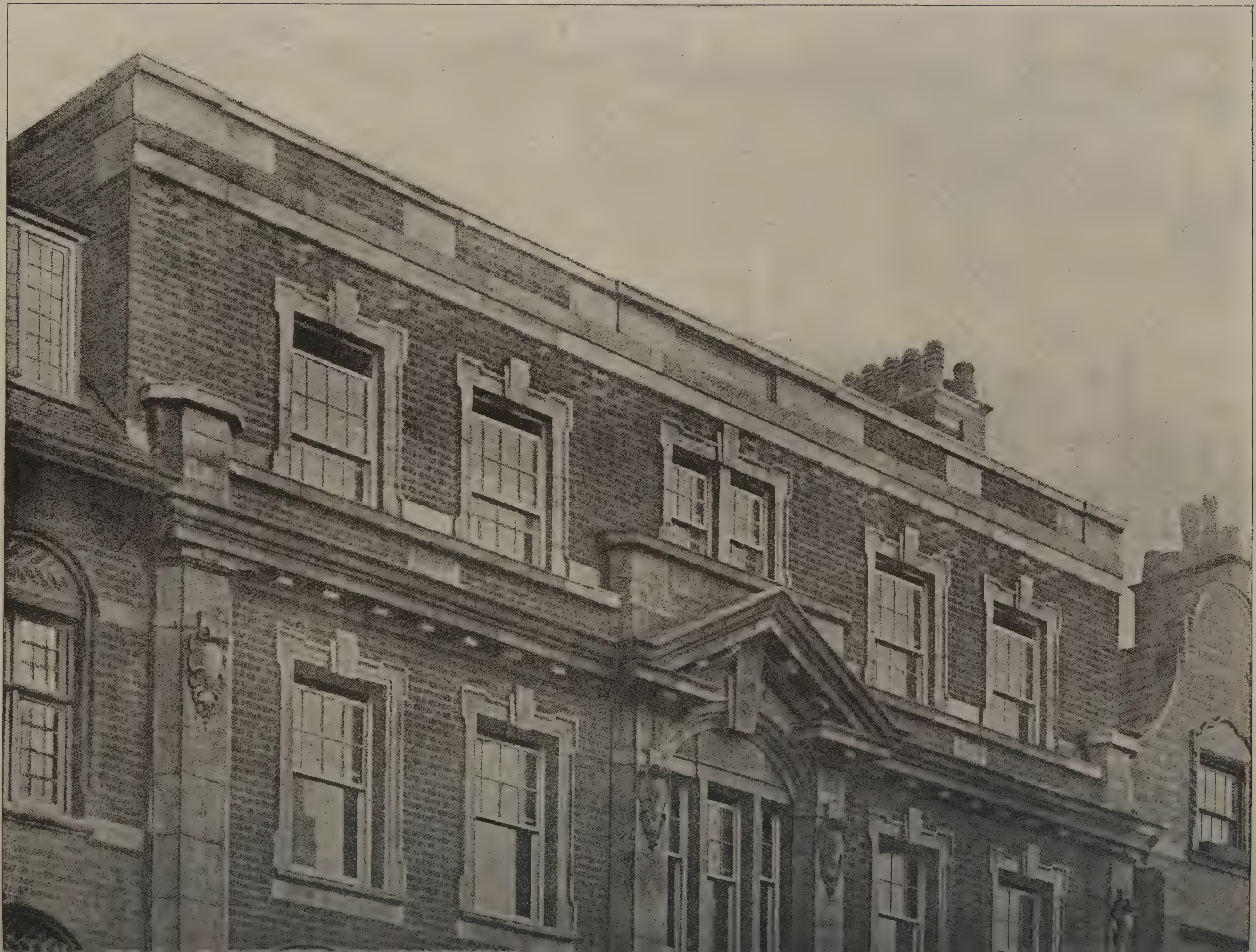

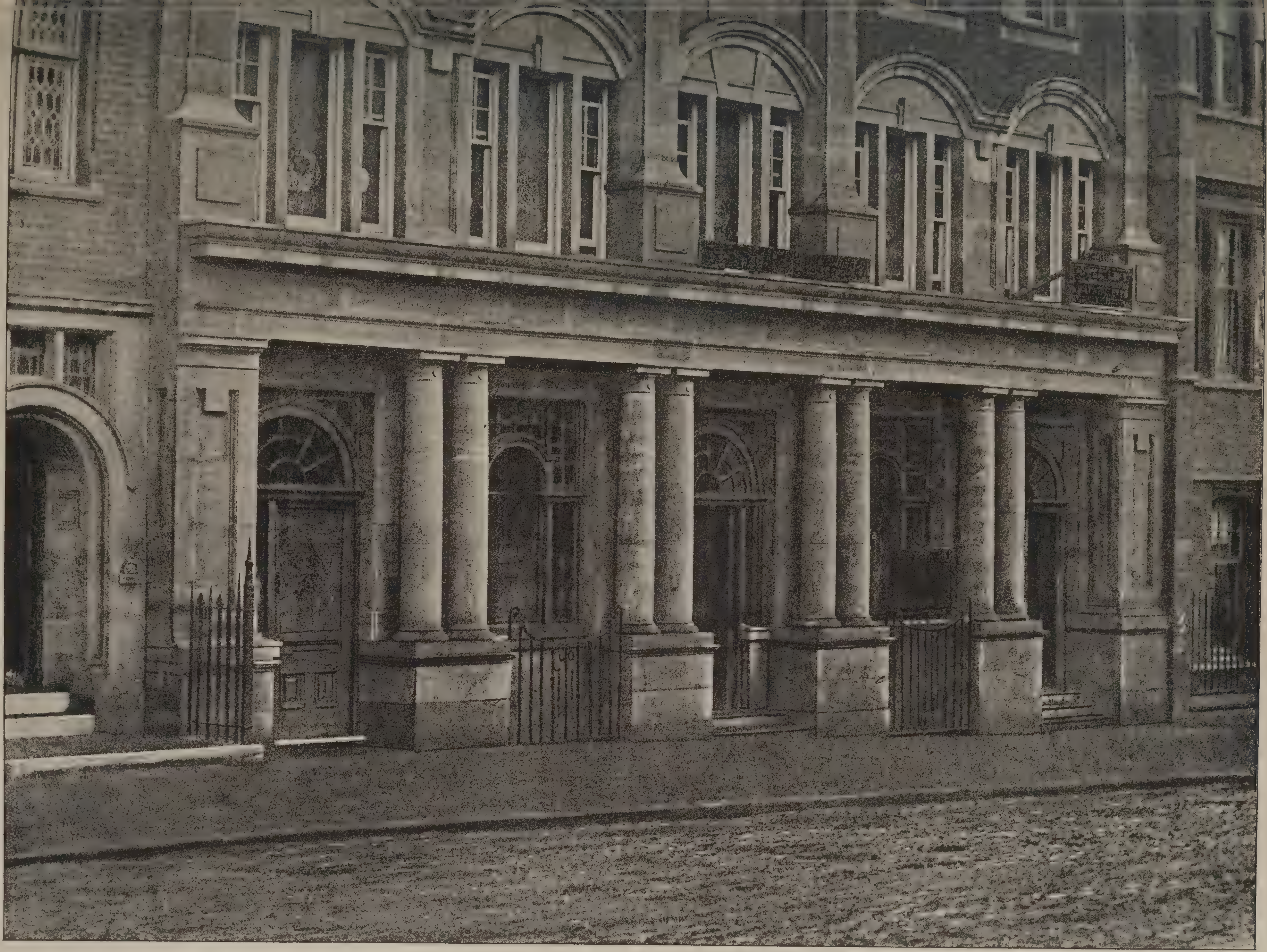

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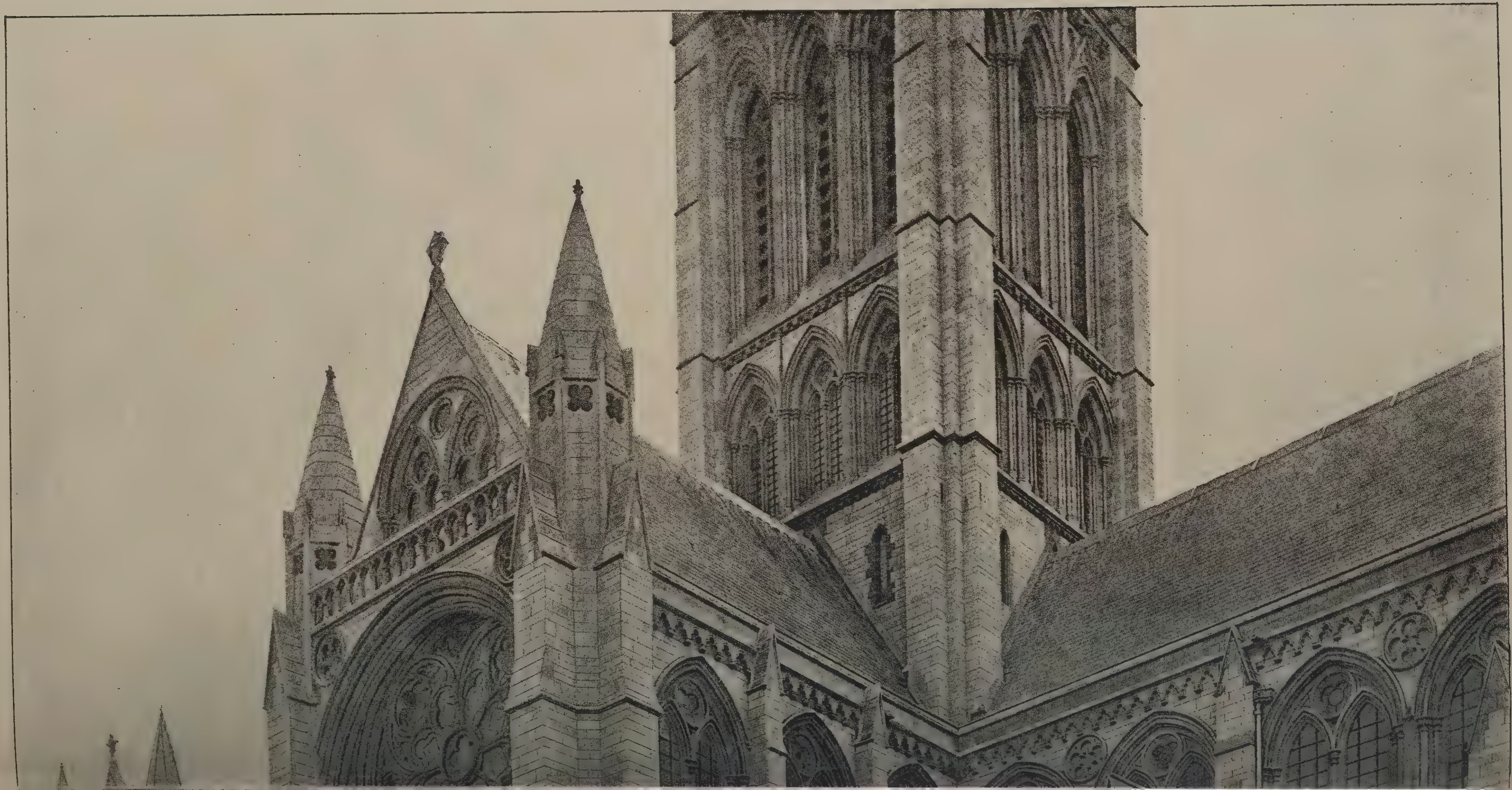

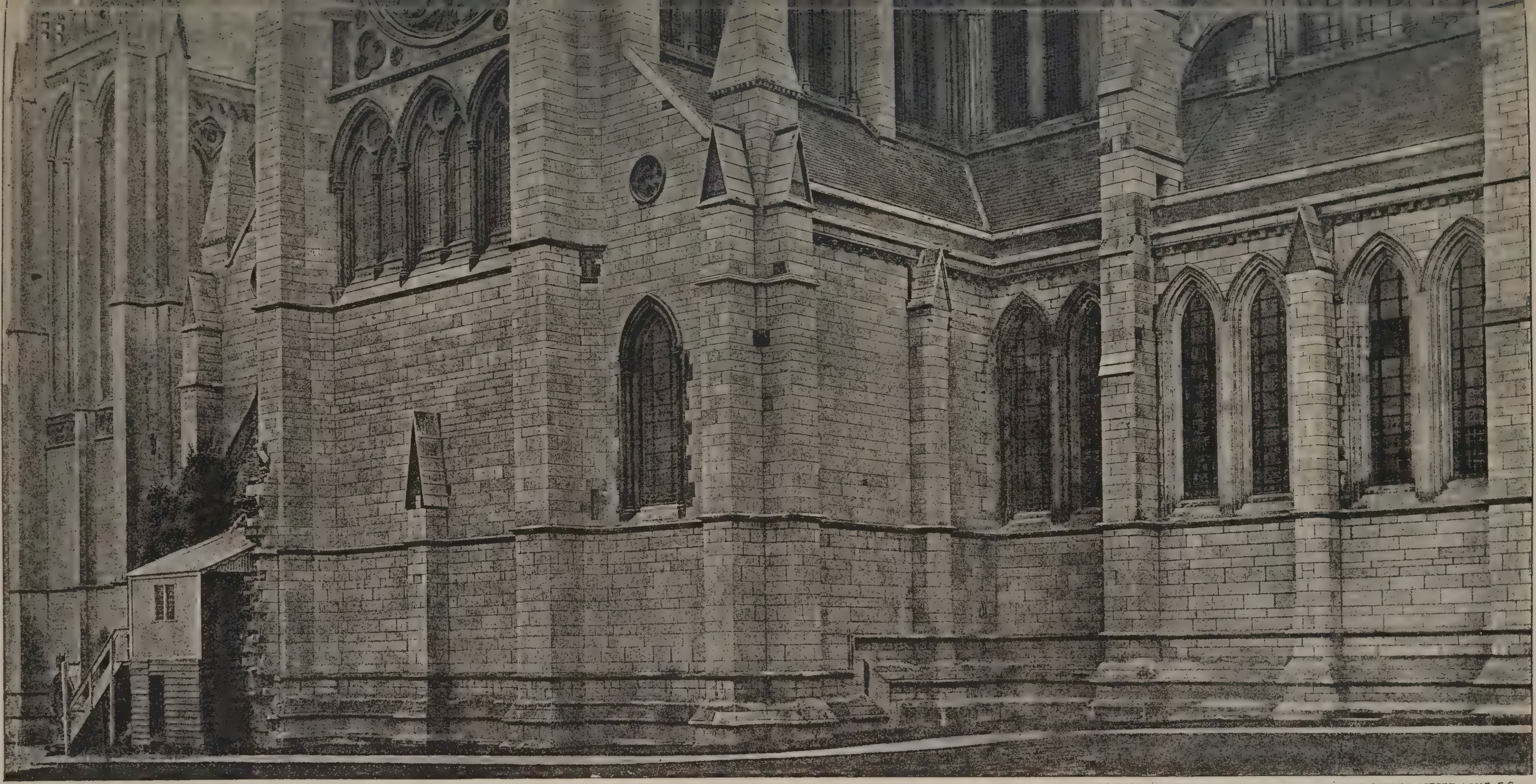

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CATHEDRAL SERIES, No. 551.—TRURO: VIEW FROM NORTH-WEST.

The late J. L. PEARSON, R.A., Architect.

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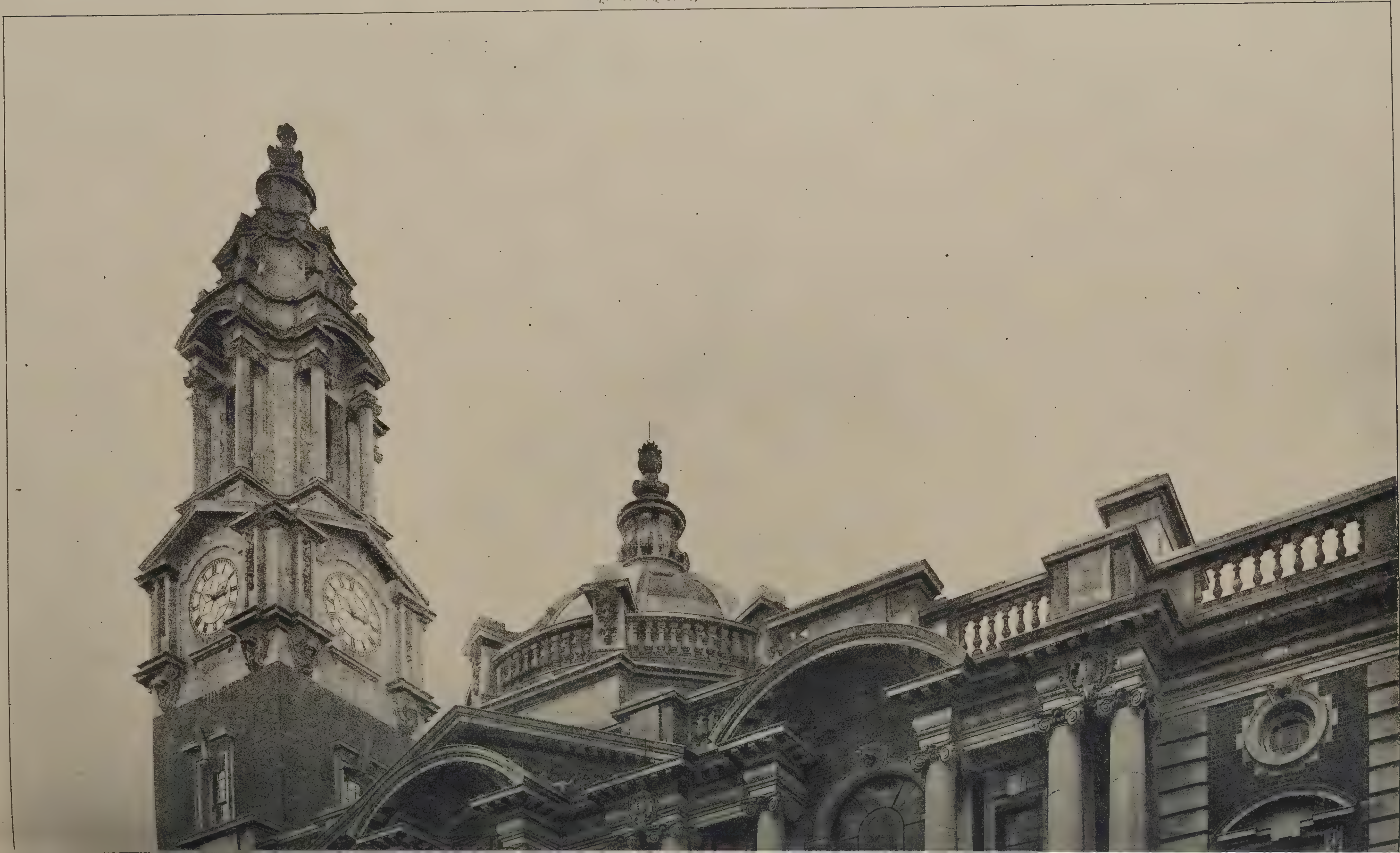

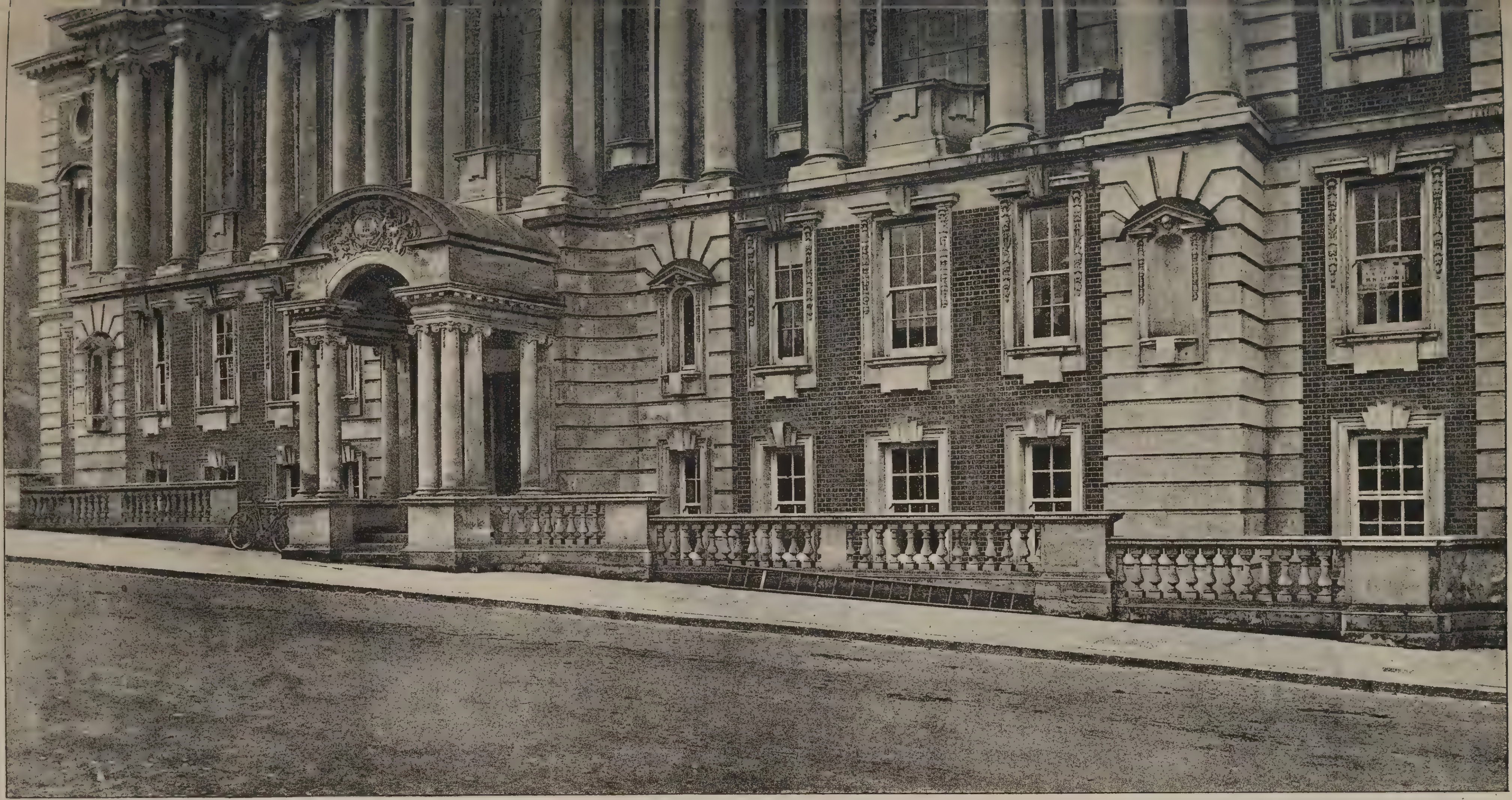

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A. BRAMWELL THOMAS, Architect.

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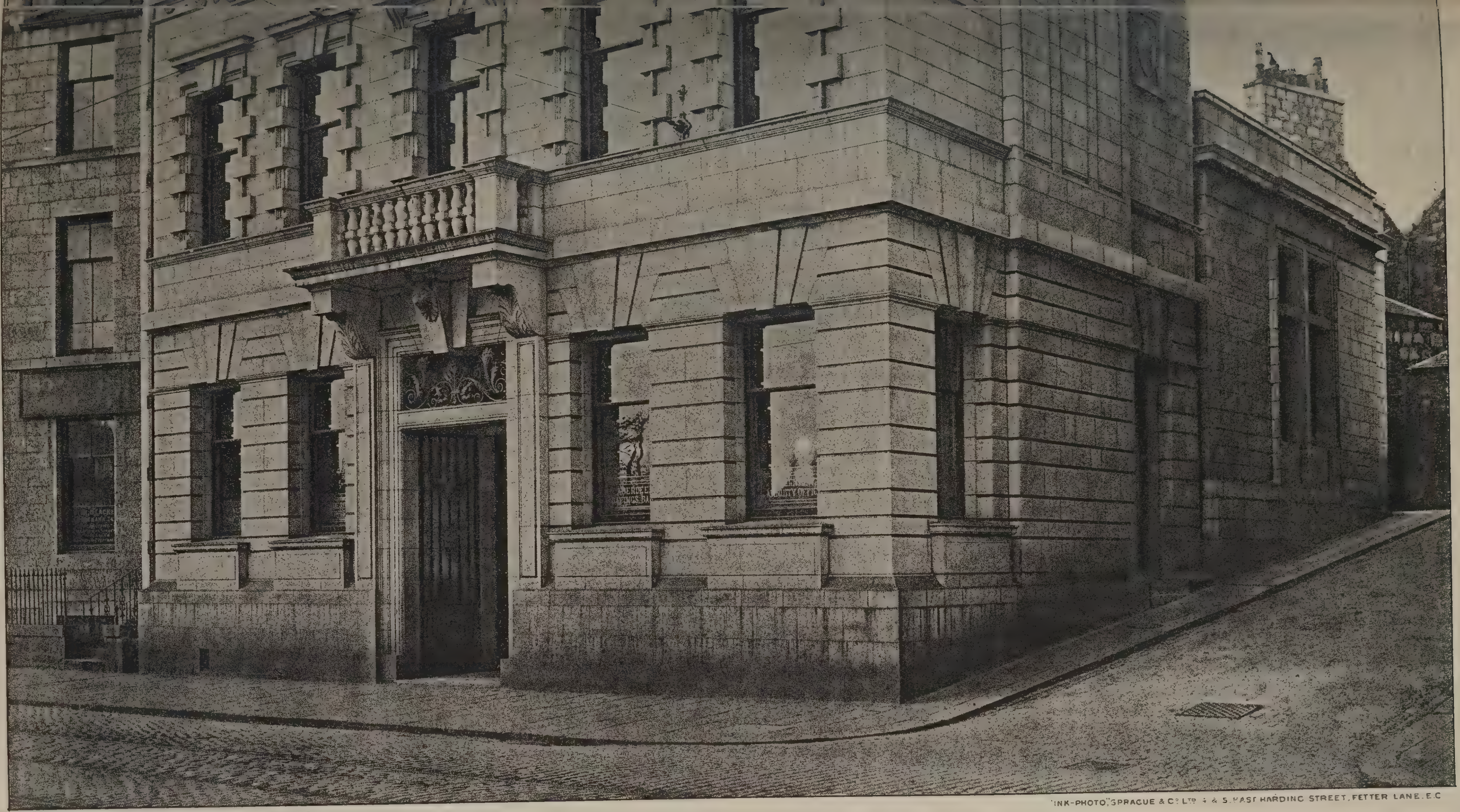

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SAVINGS BANK, ABERDEEN, N.B.

Messrs. KELLY & NICOL, Architects.

The Architect.

THE WEEK.

According to Carlyle, Cromwell utilised some of the castles in the Highlands as garrisons, and the soldiers were so careful of their discipline and so exact to their rules they had a taming effect upon the Highlanders. He also built three citadels in Leith, Ayr and Inverness, besides many small forts through Scotland. The Rev. Dr. Dykes, of Ayr, has presented to the Kirk Session a document which throws a remarkable light on Cromwell's action. For a time St. John's Church had to be used as the armoury for the fort. As compensation it was arranged that money should be given to erect another church. The document is a certificate to the following effect:—"I doe hereby testify that Major-Generale Deane did promise unto ye Burrough of Ayre the sume of one thousand markes sterling money towards ye building of a church in that towne, by reason that theire former church was employed for ye publique, and did give me order to pay 200*l.* upon layeing the foundacion one foote above ground, and 200*l.* when it was halfe built, and the remaynder when it was finished. In testimony whereof I have hereunto sett my hand this first day of August 1654.—Math. Alured." Underneath the above is the following:—"I have perused the promise, and doe know and agree to accepte ye same to be true.—Rt. Overton." The financial arrangements confirm what Carlyle says, that "seven or eight thousand men, well paid and paying well; of the strictest habits, military, spiritual and moral; these it was everywhere a kind of practical sermon to take note of."

The demand at the present time appears to be for cottages not only for labourers, but for people who, though able to pay a higher rent, prefer occasionally at least to live in small dwellings. The principal cause of the demand arises from the desire of manufacturers and others to have a hold on workmen and labourers. The American Consul who lately visited Europe in order to study the subject, in his report says:—"The experience in Austria, where manufacturers generally furnish dwellings and fuel to their workmen free of charge, has been that it minimises the number of strikes. I am satisfied that this has also been the experience at Port Sunlight and Bournville Village, in England, where the rents are practically fixed at rates which pay only for maintenance, taxes and repairs, as well as at Essen, where the Krupp enterprises yield about 2 per cent. on the investment. Experience has shown in Germany, as elsewhere, that the more a manufacturer learns to differentiate between a man and a machine the more he is likely to reduce the danger of strikes." Bournville has been made the subject of a book by Mr. W. Alexander Harvey, who was the architect to the Village Trust from 1895 until 1904, and who is now the consulting architect, which is published by Mr. Batsford. Mr. Harvey read a paper before the Architectural Association two years ago on "Cottage Homes," but within such limits he was unable to compress all the information relating to the subject. His book will be a manual to all contemplating cottage building. Bournville is not confined to Messrs. Cadbury's workpeople. As the rents range from 4*s.* 6*d.* per week to 12*s.*, and the village is only four miles from Birmingham, mechanics, clerks and others in the Midland city are glad to live in a place where there is such unusual accommodation, for each cottage has an average open space of 600 square yards for growing flowers and vegetables. In 1904 the death rate in Bournville was only 6.9 while it was 19 in Birmingham, and the difference well suggests the salubrity of the village. The cost of the cottages is given, including an addition of 3¾ per cent., to represent profit. The lowest price cottage seems to be 135*l.*, but so low an amount would be impossible if the cottage were not one of a block of eight. Photographs, elevations and plans are given, and no effort is made to impart to the buildings an importance they do not possess. The book is a satisfactory description of a satisfactory experiment.

A few years since there was much litigation in the French courts relating to the Palais de Longchamps at Marseilles. M. Bartholdi, the sculptor of the colossal statue of *Liberty Enlightening the World*, claimed to have designed the group of structures and fountains. The process went through the various French courts, and eventually what could be considered as only a compromise was decided on. The Corporation of Marseilles were ordered to pay the sum of 13,770 francs. This money has been generously made over to the Society of French Artists. It is intended to apply it to the foundation of a prize of 400 francs which is to be awarded yearly for a work of art—painting, sculpture or architecture, in which there is evidence of invention or imagination. The sum is small, only 16*l.*, but the prize, we suppose, will be valued on account of the donor as well as the circumstance under which the funds were obtained. The most suitable way of using the money would have been to found a prize for a "ghost," for apparently that was the position which M. Bartholdi was supposed to hold.

The generous spirit in which the John Rylands library at Manchester is conducted is suggested by the resolve to bring out a series of facsimile reproductions of some of the most interesting of the unique and rarer works in the collection. The first group to be reproduced will consist of six volumes printed by William Caxton, Nicole Marcant, William de Machlinia, A. Pfister and others, of which the only known copies are in the John Rylands collection. Two hundred and fifty copies of each volume will be printed. After reserving 100 copies for distribution to the principal libraries of the world, the remainder will be sold at a price calculated to cover the cost of reproduction. By making the unique and rarer works of the library accessible in this way to students in all parts of the world, the Governors feel that they are making a valuable contribution to scholarship. The volumes will be issued with as little delay as possible. Among the recent additions to the library is a collection of the early editions of Dante as well as other works relating to the poet, numbering about 5,000 volumes. It is another of Mrs. Rylands's gifts. The library now contains over 100,000 volumes.

"Once a draughtsman always a draughtsman" expresses the condition of a class of assistants who suffer from the absence of an organisation resembling trade unions. There are cases where "clerks" have more claim to be considered as artists and architects than employers. In the United States the American Institute of Architects have wisely made arrangements to facilitate the entrance of draughtsmen among the members. One of the by-laws was as follows:—"An architectural draughtsman, who is over thirty years of age and who has been in the employ of a Fellow of this Institute for five years or more, and shall be recommended by such a Fellow or two other Fellows, and who shall have fulfilled all the other requirements of associate membership, may, in the discretion of the Board of Directors, be recommended for associate membership, and may be elected as provided in the case of candidates for associate membership." We suppose it has been found by experience that some Fellows were not disposed to aid in the conversion of an assistant into a rival. At the convention which was held in January the by-law was altered, and now runs:—"An architectural draughtsman who is over thirty years of age, who shall have fulfilled all the other requirements of associate membership, may, in the discretion of the Board of Directors, be recommended for associate membership, and may be elected as provided in the case of candidates for associate membership." The age limit is still too high.

BASALT.

BASALT is the hardest and heaviest of all stones, and yet it is in modern times the least used in building or in the arts. With the ancients it was prized. According to PAUSANIAS statues representative of the Nile were made of basalt because it was believed the source of the river was to be found in Ethiopia, where the material was said to abound. That view is confirmed by the statement of PLINY, for he refers to the statue of the Nile which was consecrated by VESPASIAN in the Temple of Peace as having been formed out of the greatest block of basalt which was seen in Rome. He also describes the statue of MEMNON which was in the Temple of Sérapis, in Thebes, as an example of sculpture in basalt. PLINY says the stone was derived from Arabia as well as Ethiopia. The supply is not exhausted. Sir T. H. HOLDITCH, president of the Royal Geographical Society, in describing Southern Arabia, says:—"A curious geological feature of the coast are the basalt fields near Kosair, which spread across the flat country in a stratum of black, rock-like lava. The Arabs attribute this basaltic effusion to the destruction of pagan cities. Probably it is the source from whence Egypt and Assyria derived material for statuary art."

In this country the basalt is generally black in colour, but the foreign basalts are sometimes partially red or grey or green. There is a figure of a lion in the Louvre which often appears to resemble fine bronze on which time has conferred a greenish patina. There are still lions and sphinxes in Rome of black basalt. There are also Egyptian figures of greenish basalt in the Capitoline and other museums. The material was always hard to work, and therefore was more likely to be used in a country like Egypt, where sculptors were regarded as artisans whose labours were cheaply obtained. The question of cost is, no doubt, the main reason why in modern times basalt is only used in France for the making of bottles, and in England for mending roads. Yet the basalt of Shropshire and South Staffordshire has a good deal of green in its composition, and may be considered as a handsome stone. Basalt is found in the form of dykes, which evidently forced their way through the strata of sedimentary rocks. In Fingall's Cave and in the Giant's Causeway the basalt assumes a columnar form which rivals the productions of art. In Arthur's Seat, near Edinburgh, the stone is in an immense mass that forms a contrast with the rather delicate dykes which are found in other parts of the country. Why the stones should assume regular forms was at one time a puzzle. But the experiments of Sir JAMES HALL, the philosopher, who suggested that Gothic tracery was an imitation of wickerwork, have been accepted by some as explanatory of the columnar arrangement.

We have stated above that Frenchmen used basalt in their glassworks. Although it is so remarkably close in grain, basalt is converted into glass by the exercise of a lower degree of heat than is required for other materials. What is also extraordinary is that, when placed under conditions favourable to crystallisation, it afterwards assumes a regular form. HALL believed that basalt was at one time subjected to heat like other volcanic rocks, and was afterwards changed by some peculiar agency into the forms which often belong to it. HALL's experiments were not conducted with the precision that was desirable, and at the beginning of the last century GREGORY WATT undertook a series of experiments which would leave no doubt about the results.

He obtained 7 cwt. of basalt and he had it thrown into a furnace in an iron foundry. He found that the quantity of fuel required to fuse it was only about one-half of what would be required for an equal amount of pig-iron. The explanation of the difference is only conjectural. The basalt, after being fused, was allowed eight days to cool. It formed an irregular mass measuring 3 feet 6 inches by 2 feet 6 inches, the thickness varying from 4 inches to 8 inches. In the vitrified basalt a large number of nearly spherical globules appeared, and WATT ascertained that if the union of the globules was imperfect the fracture of the mass was rhomboidal. If the cooling was gradual secondary spheroids were found. After considerable study he came to the conclusion that if a valley were filled with a mass of fluid basalt, the earth will slowly receive its heat and moisture, and dispose it to the formation of a layer of immense spheroids in contact with the ground. But since no penetration can ensue between these spheres, they will become mutually compressed into the hexagonal form, and the resistance of the earth prohibiting their advance downwards, they must extend their dimensions upwards, and thus form prisms whose length may be indefinitely greater than their diameters. WATT's theory is not universally accepted by geologists, and it is said that phenomena on a small scale, which resemble the basalt prisms, are sometimes observable with bricks which are subject to continuous and extreme heat. It would be strange if no other material could display columnar forms.

We can imagine the basalt not as small spheroids, but as large balls. There is a tendency in nature for bodies which are heated until they become almost fluid to assume spherical forms. Now, if we suppose the balls lying together in a heap and pressing equally against each other they would become hexagonal. We then have such a collection as can be seen in the Giant's Causeway, which THACKERAY ridiculed and yet correctly described when he said:—"The number of basaltic pillars composing the Causeway has been computed at about 40,000, which vary in diameter, their surface presenting the appearance of a tesselated pavement of polygonal stones—each pillar is formed of several distinct joints, the convex end of the one being accurately fitted in the concave of the next, and the lengths of the joints varying from 5 feet to 4 inches. Although the pillars are polygonal, there is but one of three sides in the whole 40,000 (think of that!), but three of nine sides, and it may be safely computed that ninety-nine out of 100 pillars have either five, six or seven sides." THACKERAY, however, did not consider the Giant's Causeway was a more majestic object and did not occupy more space than the barge which in his time was moored at Hungerford Market.

Although the basaltic columns, which appear made up of separate stones and rise to a height of over 300 feet, are accepted as the most wonderful examples of volcanic products, the dykes generally consist of columns which are of one piece and are arranged vertically or horizontally. It also occurs in masses which are not columnar, and, as in the Deccan in India, may have an area of several thousand square miles. Sometimes the rock passes into granite, but as it is generally found disturbing later rocks, it is supposed that they represent forces which were in operation at a period which must be considered as almost modern if compared with the time when the primitive granites were produced.

Geology is now supposed to have industrial aspects, and it is strange that a rock which exists in various parts of the world is of comparatively small use. It is believed to have withstood a crushing force of 17,000 lbs. per square inch. Its strength may have been greater, for it is a refractory material difficult to test. The examples of sculpture which survive prove its endurance. But it has the defects of its qualities, and on account of its strength it cannot be operated on without an expenditure of labour which in modern times could not be afforded, even for monuments that are intended to be national. FLAXMAN considers that the intagliated character of Egyptian sculpture was dictated by the use of basalt.

JAPANESE ARCHITECTURE.[*]

WHAT is known as the association theory of beauty or of art, which is an embodiment of beauty, has not been universally accepted. Those who claim to have advanced ideas refuse to believe that such a building as a Greek temple does not attract attention on account of the intrinsic beauty of the different parts, and they deny that it is necessary to think of the heroic people who erected and who employed one in their religious services. Are not the ruins of the Coliseum sufficiently impressive to the humblest classes of tourists, although unable to recall the great events of Roman history? While it may be admitted that a beautiful object has an attraction which is independent of association, we must allow that in the modern acceptance of art association counts for much. It has been agreed during so many generations that Greek and Roman architecture (and some will add Gothic also) are the most perfect varieties which have been produced, it is very difficult for a modern European to think otherwise on the subject. That opinion has become almost an instinct. If doubts should arise there are innumerable treatises on æsthetics to dispel them.

It must now seem strange to anyone who considers the matter that during thirteen centuries another style of architecture was being practised in the world without any knowledge on the part of Europeans. In these days, when voyages round the world are a not uncommon pastime, the mystery which surrounded Japan must seem to be incredible. It was a country where art flourished, and more especially industrial art. Yet when our Hyde Park Exhibition was held in 1851 to display the industries of all nations, Japan was as completely ignored as any of the regions of the moon. We have a record of the neglect which forms part of the Albert Memorial. One of the great groups, and the most successful among them, is *Asia*, by John Henry Foley. We see a kneeling elephant with a woman seated on the animal drawing back her veil, suggesting the revelation of the Asiatic peoples. There are figures of a Chinese, a Persian, an Indian and a Turk or Arab. Nothing is introduced which would suggest that in Japan there were more varieties of artists or craftsmen than in any of the other divisions of Asia. In the Exhibition of 1862 the omission was repaired; and, indeed, it may be said that it was in South Kensington Japan was first revealed to Western Europe, for the objects to be seen at The Hague were only partial representatives of the art of the Eastern islands. Since 1862 many exhibitions and illustrated books have enabled people in this country to realise the characteristics of all varieties of Japanese art, with one important exception, that of architecture. There have been reproductions of Japanese houses in exhibitions, but they were inadequate to enable spectators to form accurate ideas of the builder's craft.

In the new book by Mr. R. A. Cram, an American architect, we have recorded the impressions not only of an expert, but of an enthusiast. We do not know how long he has lived in Japan, but he has endeavoured to understand the character of the people as well as of their works. That is the proper method to follow, for it is more likely to lead to accuracy of view than the superciliousness of those who judge everything by the standard of Western Europe, as if it alone were perfect. Indeed, many critics who profess to scorn the association theory show their subservience to it whenever they come in contact with work of any kind which is novel. But the readers of Mr. Cram's book must endeavour to think with him. If we adopt Vitruvian or Palladian rules he is sure to be condemned as well as the buildings and other works he eulogises. His countrymen have done much both as missionaries and as traders to convert Japan to modern notions. But he is not proud of the results. Indeed, he cherishes the belief that sooner or later Japan will absolutely slough off what he calls the absurd habiliments of Western and Westernised art, and then there will be a rebirth of the art of Japan in all its original splendour. Mr. Cram believes that the change or decadence of Japanese architecture is not entirely due to moderns. It began, he considers, with the attack on Buddhism, the latter being the religion to which the great monastery of Horiuji, erected in A.D. 607, was dedicated, and part of which still remains. In style it is Chino-Korean, which the author describes as one of the most extraordinary architectural styles in the world :—

> It is the counterpart of the Romanesque of the south of France, and the two styles bear exactly the same relation to the root style of Greece, with the single exception that in the West there was no change in materials, while in the East there was a reversion to the original and primitive wood. From Athens to Asia Minor, thence to Persia and so to India, architecture, painting and sculpture worked their way back against the sun and over provinces where still remained traces of enormously ancient civilisation. Bit by bit the original impulse was modified and took on new forms: the mysterious and mystical East entered in, dominated and revolutionised the Hellenic impulse, and at last, when the great progression reached China, the genius of old Cathay brought the final change. Mysticism and meditation, the soul of the infinite East, had wrought out of alien shards its own intimate and exquisite habiliments. In the West action and conduct and the spirit of innovation, driven by dominant Christianity, had transmuted the original Greek through the decadent Roman into the vigorous, aggressive, practical Romanesque; in the East mysticism and tradition, guided by the subtleties of Buddhism, had wrought their own intimate change. When at last the limit of land was reached, and the advanced guard of the new life of the East stood on the shores of the confining sea, almost the last vestige of Hellenic forms was gone, and only in the entasis of the columns of the great gate and in the thin folds and studied calmness of the sculptured drapery of the statues are to be seen the lurking traces of Greek art, and within a few years these also were to disappear, giving free field for the full exercise of the indigenous Japanese spirit.

The influence of Greece upon Eastern art is a subject which has given rise to controversy. Some scholars have maintained, on the contrary, that Indian influence is to be found in Ionian dialects, and it is not impossible the Indian spirit could be traced in other fields. Fergusson supposes that in a period when Hindu sculpture had declined, its downward progress was arrested by a school which evidently respected some traditions of Classic art. But there is no such influence observable in the buildings of India. It is also reasonable to suppose that the improvements which are to be traced in the temples of Korea and Japan were not beyond the capabilities of a clever people who for a long period had been workers in wood and were fond of ornamental forms. Mr. Cram considers that the pagoda of Yakushi-ji marks the birth of national Japanese architecture, which dates from A.D. 680, or a century after the introduction of the Korean type. In the ninth century was erected the sanctuary of Ho-o-do. The three temples are far superior to the later examples which are to be seen throughout Japan. For we are told that "in every detail the early work has been coarsened and vulgarised; the low roofs with their wonderful curves have risen to gigantic sweeps of blue tile, steep, coarsely curved and loaded with huge ridges; the bracketing has become a wilderness of tortured carving and joinery, tedious and overloaded; ornament is no longer constructional; it is arbitrary, and by its very prodigality it becomes cheap and tawdry." Japan, consisting of a warrior race, suffered from civil wars, and the disturbances were not without their effect on temples and palaces. Not until the end of the sixteenth century did the barons succeed in a triumph of which the result might be compared with the proposal of Bishop Berkeley when he suggested that Ireland for its own advantage should be surrounded by a brazen wall. For over two centuries Japan was practically isolated from the rest of the world, and with the greatest advantage to herself, for it made the people self-reliant and self-sufficing. The arts of decoration flourished, and, as happened sometimes in Europe, they were accepted in buildings as if they were of more importance than construction. Some examples which are given of the excess of ornamentation are very curious. When once a decline sets in it cannot easily be resisted, and if good architecture is now rarely seen in modern buildings, we suppose the blame must be borne by the ornamentists. According to Mr. Cram, "domestic work is still almost wholly on the old lines so far as the middle classes are concerned; the nobles are building palaces from European designs that would dishonour a trans-Mississippi city or a German suburb. The public buildings designed by local 'foreign' architects are even worse, and the least offensive examples of Western styles are the work of natives."

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[*] *Impressions of Japanese Architecture and the Allied Arts.* By Ralph Adams Cram, Fellow of the American Institute of Architects, Member of the Society of Arts. (London: John Lane.)

Mr. Cram, as an American, is necessarily a utilitarian, and he could not be satisfied with investigations of the early history of Japanese architecture or lamentations over its decline. He has drawn lessons from what he has seen. One is the adaptation of the buildings to their surroundings. They seem "almost to be a concentration and perfection of the hills and trees," and the contrast in that respect with buildings on Western lines is marked. Then there is the unity of the composition, "the refinements of line and proportion having their equals only in the architecture of Greece and Mediæval Europe." The interiors of the temples are as awe-inspiring as the Gothic churches of Europe. Concerning their woodwork, Mr. Cram remarks:—

> Perhaps the greatest lesson one learns in Japan is that of the beauty of natural wood, and the right method of treating it. The universal custom of the West has been to look on wood as a convenient medium for the obtaining of ornamental forms through carving and joinery, the quality of the material itself being seldom considered. In Japan the reverse is the case. In domestic work a Japanese builder shrinks from anything that would draw attention from the beauty of his varied woods. He treats them as we do precious marbles, and one is forced to confess that under his hand wood is found to be quite as wonderful a material as our expensive and hardly worked marble. In Japan one comes to the final conclusion that stains, paint and varnish, so far as interior work is concerned, are nothing short of artistic crimes. In another respect Japanese builders are right and we are wrong. They do not destroy that sense of protection every room should possess by filling whole sides thereof with plate glass. Instead, their windows are of delicate latticework covered with translucent paper, and the result is a light that is soft and pleasant. Nothing can be more absurd than our modern fashion of filling an entire window opening with one or two sheets of glass, particularly when, as happens in cities, there is no possible reason for looking out of doors. There are many minor lessons of similar nature which we would do well to learn from the East, and these lessons it is perfectly possible to take to heart and adapt, without copying the qualities which are expressive of a civilisation radically different to ours. Such copying would be affectation, but the profiting by the lessons set before us would be simple common sense.

Interesting descriptions are given of Buddhist temples and Shinto shrines. Mr. Cram compares them with some renowned Gothic buildings, including "St. Albans Cathedral, desecrated by the Brumagem 'Gothic' of the modern vandal, the late Lord Grimthorpe," and points out the freedom of the Japanese buildings from any semblance of makebelieve. Yet the missionaries with the best intentions, he says, try to win converts with corrugated iron chapels and trade altar ornaments. The temple gardens are almost as interesting as the buildings. Nowhere is the picturesque value of rocks more evident.

One of the most important chapters relates to figure sculpture—a class of work which is not appreciated by foreign critics. Mr. Cram believes that the figures in the temples are unknown to all except the Japanese. He has been able to obtain some photographs which suggest that those seated and blessing figures of Buddha have many of the qualities which should be found in architectural sculpture. There is symmetry in the arrangement of the drapery, and the modelling of the figure shows a regard for truth which has not been credited to the Japanese artists. One which stood formerly in the Horiuji, and which is supposed to date from the sixth century, is described as "a priceless example of that amazing Asiatic modification of an Hellenic norm, which proves a ramification of Classic influence, a persistent survival of the Greek idea, in lands and among people severed from the primal source by almost the whole diameter of being." But would not a living being in Korea serve for a model as well as any Greek statue of which the sculptor was likely to have only a tradition derived from recollections of some remote artist? As Mr. Dick always found the head of Charles I. coming to him as an inspiration or an obstacle to his composition, Mr. Cram sees Greek in the bronzework as well as in the wooden temples. But the people who would be swayed by the Buddhistic idea would be capable to express an embodiment of the great teacher. In the eighth century the sculptors came nearer to everyday life, and the "God of War" and "Incarnation of Power," of which photographs are given, are as truculent swashbucklers as any seen on the Japanese stage. The former certainly appears to be a portrait of a man who, like an actor, could distort his features. But Mr. Cram sees in it a conventionalised face like a Greek mask.

Throughout his book Mr. Cram writes as an artist. He does not believe that Japanese art has been adequately appreciated by Americans or Europeans. With remarkable earnestness he sets himself to demonstrate that the works can be tested by rigorous laws. And after reading the pages Japanese art will appear to have a closer relation to the art of other countries. This does not necessarily mean that the Japanese even indirectly imitated the works of European artists. Of late years they have been employed to produce imitations, and it cannot be said that the results are satisfactory. In faithful copying they are not equal to the Chinese. The Japanese prefer to follow out their own principles, which sometimes correspond with those accepted elsewhere. Even when we differ from Mr. Cram we must admire his enthusiasm, and he has been successful in producing a book which will give genuine pleasure to a reader.

ARCHITECTURE OF THE COTSWOLDS IN THE SIXTEENTH AND SEVENTEENTH CENTURIES.*

THE domestic architecture of the Cotswolds has an interest all its own, and although I have from time to time made in the pages of our Journal many of my audience familiar with its features, this is the first time I have had an opportunity of explaining its merits and beauties to the members of this Society. I may, therefore, be pardoned if I reiterate some things which I have written and refer to remarks of others who have gone over the same ground as myself. The keynote of the architecture is its simplicity, and this simplicity arose to a large extent by reason of the isolation from the world that the district enjoyed, an isolation which exists in some parts even to this day, railways and other means of locomotion notwithstanding. This simplicity was to some extent a necessity of the case, as only local materials were available, and these, although abundant, were few in variety. The staple was stone, good, plentiful and quarried on the spot. The oolite formation stretching right across the district provided for all necessities. Everything that could be improvised from this material was so done. Stone was used for walls, floors, roof coverings, chimney-stacks and chimney openings. The only other material was wood, also plentiful but of the hard variety, and consisted mostly of oak, chestnut and beech. Of soft wood there was little, consequently we find that the joiners' work was confined to doors and panelling, the window openings having the glass glazed directly into the stone mullions. Iron was scarce and confined to hinges and casements. Lead had to be procured from a distance, and therefore was not available for roofs or flashings, but confined to the setting of the window glass. This dearth of lead was obviated by the omission of all hips, and the roofs were carried through to gable ends, and thereby produced the leading feature of the style and gave it its character. It is this grouping of gables that gives it charm, and is a result of the limit of the variety of the materials available, but we shall see that in spite of the absence of lead the roofs were made sound and watertight, and the water was conveyed away from the roof in a more or less satisfactory manner. It is to the mason, therefore, we must give the first place, and right well he deserves it. The skill and cunning of his craft will be abundantly evident in the views I shall place before you.

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* A paper read before the Society of Architects by Mr. Ellis Marsland, hon. sec., on Thursday, February 15.

It has been urged by some writers that these stone walls, although of ample thickness, were imperfectly bonded and the interior was not solid, but contained a good deal of loose material. So far as the latter assertion goes, it is undoubtedly true, but it must be remembered that lime was difficult to obtain and had to be sparingly used and confined to bedding and pointing the stones; a prodigal use of mortar was prohibitive by reason of its scarcity; lime had to be burned, the only fuel available was wood and the process was long and tedious; but it must be admitted that, although the walls were not altogether solid, yet the masons abundantly made up for this deficiency by reason of the excellent jointing of the stonework, which required little help from the cementing material, as many drystone walls can testify.

The keynote of the style, as before remarked, was simplicity, and if you will notice the diagram on the screen you have in that one drawing all the elements of the Cotswold style, which you will find exemplified in infinite variety in the subsequent views. It will be observed that it is a transition from the Tudor style of the previous century adapted to the material and the needs of the inhabitants. The landowner's occupation was the rearing of sheep, the wool from which was his means of living, and although he prospered considerably, yet a certain economy was desirable in his building operations, and there was little circular work or superfluous ornament; plain solid lintel and mullion was all he could afford. You will, however, notice the exquisite proportion and the relative area of voids to solids, the diminishing number of openings on each successive floor terminating in the eyelet in the apex of the gable. The string-courses and labels were identical, always about 6 inches deep, splayed and hollow moulded. The mullions were varied in section as time proceeded, originally hollow, then chamfered, and finally ovolo moulded, but always the same proportion. The openings were from 15 inches to 16 inches wide, and the height varied from 3 feet 6 inches on the ground floor to 3 feet in the gable, and sometimes 3 inches less.

The gables, so marked a feature in the style, were set at about an angle of fifty-two degrees. In the minor buildings the roofs were carried over the walls, and we shall see examples of these, but the more important buildings had copings, the section of which was varied, sometimes flat, as in the example before us, but more often in the earlier examples moulded. These projected over the walls just above the slates, and the space so formed was pointed up, and so obviated the necessity for lead or other flashings. A gablet or finial of stone made an appropriate termination. The chimney-stacks were also a prominent and ornamental feature, rising squarely and solidly through the roof; they were terminated by a hollow string-course, and the flues were in most cases carried up separately and diagonally, forming in the process a pyramidal stopping to the base of the shaft and terminated by a moulded cap, the detail of which became more elaborate as the Renaissance influence became stronger. The stone weathering worked on the base of the shaft should be noted, coinciding with the pitch of the roof, under which the stone slates were tucked and pointed, and again the necessity of lead flashing was obviated. The roofs had to be strongly framed and pinned to support the heavy covering of stone and slates; these slates were obtained from certain beds of the oolite, by exposing the blocks of stone to the action of frost, causing them to split up into laminations of the required thickness. These were shaped and sorted into a variety of sizes, the larger ones being used at the eaves and diminishing in size to the ridge; one or more holes were drilled in each slate into which an oak or deal peg was driven; it was then hung over the tile batten, the under side between the rafters was plastered with coarse plaster, and made a sound, warm, lasting and watertight covering. The valleys were formed by rounding the bed and cutting and shaping the tiles to fit the hollow in a very ingenious manner, so that no leadwork was required. The covering to the ridge was made from the ubiquitous stone, so that the whole externals of the building were indebted to the quarry for their being. But the charm of these old stone roofs, which in a few years became covered with lichens, must be seen to be appreciated, and one regrets that times have so changed that this style of roof is going into desuetude owing to cheaper and baser methods being adopted.

A word, perhaps, might be said as to the entrance doorways; these had as a rule a deep stone lintel, over which the label or string was carried, and the sides and head were either chamfered or moulded according to the relative importance of the doorway or the character of the building.

Porches were not as a rule a feature, but at a later period these were added to the main building, and very charming and appropriate some of them are. Wooden pents of a Renaissance character have at times been added, indeed, to several of the examples which will be seen. The simple doorway appears to have been removed by a subsequent owner, who was, perhaps, a well-to-do clothier, who, not content with the modest doorway provided, had introduced one of Classic proportions. These alterations were sometimes not confined to the doorways, but when an addition was required to the building one was made not in the old simple style, but in the prevailing taste of the time. This, of course, makes the building more interesting historically, but detracts from its harmony. If the prevailing note of the exterior of these old buildings was simplicity, the interiors also showed the simple life lived by their inmates.

The prevailing plan is a parallelogram, surrounded by stone walls, divided up by wooden partitions into more or less square rooms, and one marvels in these days, even in the largest of the houses, at the absence of minor offices. Other buildings were L shape in plan, others H, but all are wanting in the modern ideas of comfort and privacy, one room opening out into another, and doors opening straight into rooms; but when we read from the pages of the immortal Pepys that it was quite usual to pass from one room to another, and even to interview a lady or gentleman while he or she was in bed, and when also it was customary for the respective guests at a wedding ceremony to see the bride and bridegroom safely to bed, one ceases to wonder at the limited attempts at convenient planning, and which, to modern ideas, leaves much to be desired. I am afraid I cannot hold up the plans of these Cotswold residences as examples to be followed by our students. Yet they were comfortable enough so far as the individual rooms were concerned. The thick walls provided convenient window seats, and the wide and deep chimney opening suggests warmth and comfort. Here, again, the local stone is in evidence, and provides the material for the principal decorative feature of the interior. Wood was the only fuel, and the openings were wide and high. The limit of the length of stone obtainable made a compromise necessary between the lintel and the arch; therefore we find a flat four-centred arch spanning the opening, yet not an arch, but formed of two pieces of stone acting as cantilevers with a vertical joint in the centre, and a wood beam above tying the whole together. The jambs and head were simply or fully moulded according to the position or the importance of the building, and some examples will be seen in the views presented. These old openings in later times were filled up and modern stoves and chimneypieces inserted, attended subsequently by disastrous results. When coal became the prevailing fuel soot accumulated, and the beams being dry brought about a catastrophe, and deprived the present generation of many an interesting specimen of this old-time architecture.

The floors of the interiors were carried by stout oak or chestnut beams appearing below the ceiling, and with splayed or moulded edges appropriately stopped. Heavy wood lintels were placed over the window openings into which the floor beams were framed, thus binding the whole house together.

The walls were either plastered or panelled in oak according to their relative importance, and the floors were laid with oak or chestnut planking, or being on the ground level were paved with stone.

The use of ironwork was limited, yet one comes across some charming remains of casement stays and fastenings; iron strap hinges and door knockers which are simple and effective and redound to the credit of the old craftsmen, whose delight and interest in their work was unbounded, and in later times was developed and encouraged by Italian influence and forms.

The old window glass and lead glazing added a charm to the openings in such parts as it has been permitted to remain, but, as will be seen, the modern sash and frame or casement has usurped the space occupied by the mullion and glass in the craze for change.

This old Cotswold style lasted for about 100 years, and gave place to the Renaissance which eventually penetrated this remote district. Its coming was heralded by certain alterations being made in the old work, and subsequently when new buildings were erected the old style was given up and new forms took its place. This was inevitable. The old had its limitations in the height of its rooms, which rarely exceeded from 7 feet to 8 feet. The craze for lofty rooms, to meet the prevailing fashion, could not be met except by altering the whole proportion of the architecture, so it went. From that time to this fashion in architecture has ruled, no settled style has developed, but revivals are the order of these later days.

The study of this Cotswold work, which was honest and true, may lead to its revival, as it has in it all that is necessary for those who are content with simple forms, and in the hands of a sympathetic architect may yet renew its youth.

THE RUINS OF RHODESIA.

On Friday last a meeting of the Research Department of the Royal Geographical Society was held to discuss the subject of the ruins in Rhodesia, which by some were supposed to date from the time of Solomon. At the request of the British Association, Mr. MacIver preceded that body to South Africa by some months, in order to explore and to prepare a special report on the subject of the ruins. That report, as first presented in a lecture at Bulawayo, says a correspondent of the *Glasgow Herald*, roughly disturbed the equanimity of those who traced the oldest of the ruins back to times long before the commencement of the Christian era. Mr. MacIver has not abated the vigour of his attack on this school of opinion by one jot or tittle since he addressed the members of the British Association at Bulawayo. His paper, though advisedly brief, was both compact and comprehensive. The propositions which he set out to show had been proved by his excavations were (1) that the Rhodesian ruins belong to one period only, (2) that the period in question is Mediæval and post-Mediæval, and (3) that the buildings were constructed by the people whose implements, weapons and ornaments are found there—that is to say, by a negro or negroid race, closely akin to the present dwellers in the country. The sites examined by Mr. MacIver were seven in number. Three were near the Portuguese frontier—Umtali, the Rhodes estates at Inyanga and a remote place sixteen miles still further north—and contained rude buildings of stone, which Mr. MacIver pronounces to be more primitive in character and actually a little more ancient in date than the better-known constructions of Matabeleland and the Victoria district. It was in this better-known part of the country that the four other sites visited were situated. These were Dhlo Dhlo, Nanatali, Khami and the great Zimbabwe. Mr. MacIver's paper dealt mainly with this second group, because it was among the sites just enumerated that he obtained the most decisive evidence of date and origin. After describing the characteristics of the Dhlo Dhlo, Nanatali and Khami ruins, and adducing evidence in support of his contention that they are of Mediæval origin, Mr. MacIver came to the question of the Great Zimbabwe, most famous of all the ruins. It is on this group that attention has mainly been centred. Mr. MacIver confessed that the "Elliptical Temple" is a most interesting building, the finest example of its kind; but he added that that kind is only the same as can be found on other sites in Rhodesia. The temple, he declared, has in fact scarcely a feature which cannot be explained on the supposition that it is a royal kraal. It is more massive but has no other point of superiority over several of the ruins. Further, without wishing to disparage the temple, he thought it necessary to protest against the highly exaggerated idea of its perfection which is prevalent, declaring that it evinces no knowledge of architecture, only a certain skill in piling up stones. The assertion that certain walls have been rebuilt Mr. MacIver also pronounced to be erroneous, ascribing it to imperfect knowledge of the characteristics of the Rhodesian ruins in general and of "the shoddy methods of their builders." Nor would he admit that the ruins showed evidences of a superposition of periods, holding that what had been regarded as a succession of foundations were nothing but the layers of a single platform. In short, Mr. MacIver came to the conclusion that, like the other ruins, the "Elliptical Temple" was built by Kaffirs, and its date was decided by fragments of stoneware, Nankin china and Mediæval Arabic glass. The Great Zimbabwe, therefore, would be contemporary to within a century or so with Dhlo Dhlo, Nanatali and Khami, not earlier than 1400 or 1500 A.D., and possibly even later. Though somewhat older, the ruins along the Portuguese frontier could not be considerably older than the Great Zimbabwe, because they formed a series of which Umtali was the southern link, and at Umtali had been discovered a building which possessed the characteristics of the developed Zimbabwe style, as well as a fragment of Mediæval ware. As to the question of the intercourse which non-African peoples had had with the East Coast of Africa in the past, Mr. MacIver professed no special knowledge. But there was no archæological evidence extant to prove that the civilised world had any considerable knowledge of or intercourse with East Africa prior to the time of Mohammed. And, if he would suspend judgment with regard to so late a time as that of the Roman Empire, *a fortiori* he would refuse to discuss anything so shadowy as the possibility of a yet earlier trade with any country further south than Somaliland. The president, Sir T. Holditch, read letters from Dr. Arthur Evans and from Professor Gregory, of Glasgow, the former stating that Mr. MacIver had made out a satisfactory case for the late Mediæval origin of the buildings, while the latter referred to the shape of the gold ingot as suggesting Phœnician influence in the early mining industry of Rhodesia. Mr. R. N. Hall referred to Mr. MacIver's omission of reference to conical towers, carved birds and phalli, and to the mines and the native traditions. Dr. Keane supported Mr. Hall's view; Mr. F. C. Selous commented on the absence of inscriptions or other signs of a highly civilised race ever having inhabited Mashonaland. Sir Harry Johnston said he was impressed by the supposed evidences of phallic worship; Mr. H. Balfour suggested the clearing up of unexplained points by organised investigation like that carried on by means of the Egyptian Exploration Fund. Mr. MacIver, in his reply, disclaimed any intention to deal with the mines, and declined to accept the rude carvings referred to in the discussion as indications of high civilisation.

THE ROMAN FORUM.

A lecture was given by Mr. St. Clair Baddeley at the Birmingham and Midland Institute last Monday on "The Roman Forum." The lecturer said that (according to the *Daily Post*) perhaps to some of those present the ancient Forum at Rome still conveyed the idea of great remoteness, remoteness from Warwickshire in 1906. Certainly both sea and land must be traversed in order to reach it and to get actually into touch with it, and yet they had but to go a few miles outside this great industrial emporium on to the Icknield Way in order to find a neighbourhood abounding in evidences of the Roman occupation, the occupation that was decreed by the Emperor and Senate of Rome in the year 45 B.C. Fourteen centuries back the land here was ruled by the brain which ruled in Rome. There was then a complete unity between the two countries. The real propinquity was never brought home to him more forcibly than it was in England two summers ago at a little town in Monmouthshire, which occupied the site of a Roman camp. In the centre was a small triangular patch of turf called the village green, on which they were told the children were wont to dance around the Maypole. After some trouble permission was obtained to make excavations on the green, and 2 feet below the surface they found a Roman pedestal bearing the names of two consuls of the year 172 A.D. They also found the remains of an oak post surrounded by seventeen skeletons, which were presumably the remains of felons and suicides of the Middle Ages, who were buried around the gallows-post. The excavations were filled in and covered up, and the last time he saw that village green the children were going back to have their dance around the Maypole. There were those, he said, who were wont to think the discoveries of the Roman Forum were not so important as those of, say, Egypt; but it was just where they made the mistake. Her antiquity was not the strongest point of Rome, and perhaps not her weakness. Her years must be counted not by mere numbers, but by her epoch-making men and the greatness of her actions. Our civilisation was the offspring not of Egypt but of Rome; our arts and literature and much of the nobility of our language were derived not from the Nile but from the far humbler agricultural communities who lived beside the Tiber. The site of the Forum was the heart of the mother of our civilisation. He went on to say that during the last six years a number of lost objects had been recovered for us, thanks to the splendid work of Commendatore Giacomo Boni, and detailed many interesting discoveries that had been made by the excavators. He made special reference to the excavations of the site of the Comitium and of the thick slabs of black marble beautifully veined with white that were unearthed, and were supposed to mark the place of burial of Romulus. Many statue bases were found, and on one of them, a view of which was thrown on the screen, was an inscription to the effect that it had been dedicated to Mars and to the founders of the Eternal City by Maxentius in 308 A.D. It had been surmised that the base may have been surmounted by a bronze wolf, symbolical of the she-wolf that, according to the legend, acted as foster-mother to Romulus and Remus. Many other interesting discoveries were described by the lecturer.

ROYAL HIBERNIAN ACADEMY.

According to custom the Royal Hibernian Academy was one of the societies of Dublin that presented an address to the new Lord Lieutenant of Ireland, Lord Aberdeen. The president of the Academy, Sir Thomas Drew, was unable to be present through illness, but the following members attended:—Messrs. S. Catterson Smith (secretary), W. Nassau, B. Browne, James Brenan, Joseph M. Kavanagh, Oliver Sheppard, Henry Allen, B. Vincent Duffy, T. Manly Deane, Dermod O'Brien, W. M. Mitchell, Charles Russell, Alexander Williams, Robert Shore and Sir Charles Cameron.

The address was as follows:—May it please your Excellency,—We, the President and members of the Royal Hibernian Academy of Arts, beg to tender our most cordial and hearty welcome to your Excellency and the Countess of Aberdeen on this happy occasion of your coming amongst us for a second time as representative of our Gracious Sovereign. We may be permitted to recall to your Excellency that the Academy we represent was incorporated by Royal Charter in the year 1823, "for the better cultivation and advancement of the fine arts in Ireland," an object which we have sedulously pursued. In the year 1861 her late Majesty granted us a new Charter increasing the number of academicians and extending our privileges. We were endowed with our existing Academy house in 1823 by the munificence of Francis Johnston, president of the Academy, and are in receipt of a small annual grant from His Majesty's Government. We hold an exhibition of contemporary art each year and maintain a school where instruction is afforded gratuitously to students desirous of making art their serious study. Recently winter exhibitions have been held in our galleries, which, we are happy to record, have proved widely appreciated and instructive. We may particularly refer to the memorial exhibition of works by the late G. F. Watts, R.A., O.M., which is at present on view. Owing to somewhat obscure causes our Academy, now in its eighty-third year, has not proved so successful as our predecessors had hoped at its establishment. In consequence, and at our request, His Majesty's late advisers appointed a committee to inquire into the past history and future management of the Institution. This committee has not as yet had time to report, but when as we trust a report favourable to the claims of the Academy has been issued, we hope we may count upon your Excellency's interest with His Majesty's Government in furtherance of such of its recommendations as may favourably affect us. We take this opportunity of expressing our appreciation of the personal interest previously taken in our progress by your Excellency, and we trust we may again add your name to the distinguished list of our vice-patrons, and have your sympathy and interest in the welfare of our Academy.

In reply his Excellency said:—Mr. Catterson Smith, the welcome and the greeting which in this gratefully expressed and kindly address you have accorded to me as the representative of His Majesty King Edward, cannot fail to be heartily appreciated. I have also listened with much interest to your narrative of the chief features of the origin and history of the Academy and its operations. Such an institution has undoubtedly an important mission to fulfil, and it is, of course, most desirable that every opportunity and encouragement should be afforded for the fullest possible attainment of the object aimed at. It is much to be hoped, therefore, that the official inquiry to which you refer will result in recommendations which it may be possible to adopt for the benefit of your Academy and the interests of art generally. With regard to the more recent example of your proceedings for the promotion of education and culture of art and its influence, I may be permitted to congratulate you on the success of the Watts memorial exhibition of pictures. It is indeed a very striking collection, and for my part I cannot but feel that it would be worth while to travel a long distance to have an opportunity of studying even one or two of the rare specimens of refined and inspiring artwork which are included in that exhibition. And while congratulating you on the success of this, your latest enterprise in this direction, I must not forget to refer in a similar sense to the two earlier exhibitions, each of distinctive character and periods, which also, as I am well assured, were carried out in a most successful and effective manner. In conclusion, I may say that I shall esteem it a pleasure to accede to your courteous request to have my name added to your list of vice-patrons; and on behalf of the Countess of Aberdeen and myself, I again thank you for your kindly words and assure you of our hearty good wishes.

ROYAL SCOTTISH ACADEMY.

The architectural contributions to the exhibition are not this year, says the *Scotsman*, of outstanding novelty or special merit. They are accommodated, as for some years past, in the small octagon, and form about one-half of the total collection (sixty-nine items) in that apartment. The other exhibits in the small octagon comprise decorative works in black and white, coloured designs for stained glass, small pieces of sculpture and a few interesting examples of enamel work. The works which claim chief attention are those submitted by Sir Aston Webb, R.A., London. They consist of two drawings of the Royal College of Science, South Kensington, and both as regards excellence of design and the manner of exhibiting architectural work are notably of educational value as examples which might be followed with advantage by other members of the profession. There is dignity and restfulness in the composition of the main façade; and while showing a regard for academic proportions, freedom and vitality are evident without any of the eccentricities of some modern art. The large scale drawing of one bay of the college is specially instructive as an example of thorough architectural draughtsmanship. Another excellent work from London is exhibited by Mr. John Belcher, A.R.A. It is the design for the Royal London Friendly Society's new building—a structure of imposing dimensions also, and admirable in its treatment. The profession in Scotland is represented by some good work from Messrs. Honeyman, Keppie & Macintosh, and Mr. James Miller, Glasgow; Peddie & Brown, Edinburgh; and Hippolyte Blanc (who exhibits a fine interior of Troon Church and a elevation in colour of the hospital block, Bangour). John Kinross, R. S. Lorimer and F. W. Deas give by photographs some examples of interesting domestic interiors, with details. Leadbetter & Fairly exhibit a satisfactory design for a mansion house at Roxburghshire, with commendable restraint in its composition, and a competitive design for the Mitchell Library, Glasgow, by Mr. W. Beattie Brown, jun., shows much promise. It has more than once been hinted that the permission to the architects to illustrate their works by photography has led to a good deal of repetition of the same building and especially of interiors. Possibly this might be remedied by limiting the number of views put into each frame. As space is valuable in the small octagon this might not be a disadvantage. In a frame of photographs a series of very successful panels of ceiling decoration are exhibited by Robert Hope.

The Guildhall at Perth is to be taken down and rebuilt. A competition will be organised among local architects.

NOTES AND COMMENTS.

An experiment is about to be undertaken by M. Jean Paul Laurens, the French painter, which will be watched with interest. For probably there is no other painter in France who would have the courage to attempt such a task. It relates to the ceiling decoration of the Salle des Fêtes in the Prefecture of Saint-Etienne. Like other French painters, M. J. P. Laurens has executed "plafonds" on canvas. At Saint Etienne he proposes to execute in relief the whole of the decorations. As the length of the ceiling is nearly 80 feet it will be evident that the task requires courage on the part of an artist who is a novice in that class of work. Saint Etienne corresponds with our Enfield, for some thousands of workmen are employed in producing firearms for the army. It is remarkable that the artist proposes to demonstrate by his ceiling the horrors of war. In the midst of a fearful struggle a figure of Christ is introduced as a contrast, and the whole work will be suggestive of the desolation which will follow from an excess of militarism.

A majority of the London County Council on Tuesday approved of the proposal of the education committee to erect a secondary school in Dawes Road, Fulham, at a cost of 35,956*l.* This is the first school of the kind to be erected by the Council. It appears that in July 1905 preliminary plans for a school to accommodate 316 scholars on the site were forwarded to the Board of Education. The attention of the Board was invited to the extremely expensive character of their requirements in respect of the building and equipment of new secondary schools, and it was stated that, in the opinion of the Council, considerable economy could be effected without appreciably diminishing the efficiency of the school as a whole. The Board on December 5, 1905, approved the plans as submitted for a total accommodation of 316 girls, and added that it had been decided to modify the regulations of the Board for the building of secondary schools as follows:—"Assembly Hall.—The minimum allowance of 8 square feet per scholar will be reduced to 6 square feet where the Board are satisfied that the larger provision is impracticable. Classrooms.—The minimum allowance of 18 square feet (with the alternative provided by the existing regulations) will be reduced to 16 square feet, provided that the Board are satisfied with the arrangement proposed." These important concessions will enable the Council to effect a considerable saving in the erection of secondary schools. Afterwards it was considered that the school as planned for 316 scholars would be hardly large enough to meet the requirements of the district, and plans were accordingly redrawn for a school to accommodate 510 girls at the estimated cost, including supervision, quantities and lithography, equipment, &c., of 35,956*l.* The cost of the building only is estimated at 28,558*l.*, equivalent to about 56*l.* a place. The cost of the building as originally planned for 316 scholars was estimated at 20,000*l.*, equivalent to about 63*l.* a place.

When a lessor covenants with his lessee that the lessee shall quietly enjoy the premises demised free from any disturbance by the lessor, or by persons claiming under him, how far will the obligation of this covenant extend? This was the question raised by the case of Williams *v.* Gabriel. The defendant had leased certain parts of certain premises to the plaintiff, and had covenanted that the plaintiff should quietly enjoy them free from any disturbance by the plaintiff or by any one claiming under him. He assigned the reversion of the plaintiff's lease and the rest of the buildings to another person; and the premises ultimately came into the possession of persons who began to pull them down, with the result that the plaintiff was forced to leave. There had clearly been disturbance of the plaintiff's right to quietly enjoy; but it was held that the disturbance, not having been occasioned by any one "claiming under" the defendant, the plaintiff could not recover against him. In one sense, no doubt, the plaintiff was disturbed by one who claimed under the defendant, for the disturber claimed under the defendant as his predecessor in title. But to make a lessor liable on such a covenant for the acts of one who claims under him, the disturber must claim from such lessor not merely the property, but also the right to do the act complained of. If a lessor, after entering into such a covenant, directly causes or authorises, by his dealing with the property or otherwise, a disturbance of the lessee, he is liable. He is not liable if the disposal of the property by him in no way caused or authorised the disturbance. The lessee must in that case pursue his remedy, if any, against the author of the disturbance.

ILLUSTRATIONS.

CATHEDRAL SERIES.—TRURO: SOUTH CHOIR AISLE.

In the view of the cathedral we publish this week a part of the former church of St. Mary is seen. It dates from the time of Henry VII., and had to be incorporated with the cathedral in order to avoid legal difficulties. Truro obtained a charter in A.D. 1175. It was then known as Triueru, which is supposed to be a meeting of three roads. In the time of Henry VII. it was known as Truro. It was one of the towns selected in the next reign for the repairing of decayed houses, and the operations conducted under the Act 32 Hen. VIII. c. 19, must have been advantageous, for in the course of a few years it was said of Truro that "there is not a towne in the west part of the shire more commendable for neatness of buyldinges."

SCALA THEATRE: FROM DRESS CIRCLE—FROM THE STALLS.

This building stands on the site of the Prince of Wales's Theatre, which, under the direction of Mr. and Mrs. Bancroft, became attractive through its Robertsonian comedies. The building we illustrate was designed by Mr. F. T. Verity, and, unlike the majority of theatres, whatever is seen is genuine rather than imitative. Pavonazza marble, and not plaster coloured to represent it, is used for surbase columns, pilasters and doorways, bronze for caps, bases and other decorative work, and stone composition resembling Craigleith stone for the wall surfaces. The wood doors are of teak, maple bolection mouldings and maple veneer being used for exposed surfaces. The house is a two-tier one, the gallery being practically a continuation of the upper circle. The dress circle and stalls are approached from Charlotte Street through a spacious vestibule, on either side of which ticket offices and cloak-rooms are placed. The seating accommodation of the house is for 1,400 persons. There are marble staircases on each side of the house connecting the stalls and dress circle, and passing under the two boxes. The plan determined the treatment of the walls, the chief *motif* consisting of a superimposition of Doric and Ionic orders, after the manner of Palladio; this has been divided into bays in which the exit doors and boxes are composed as features in scale with the orders; great care has been taken to carry the main architectural lines completely round the auditorium, and to preserve all centres. The proscenium wall is designed in a similar manner; the cornice of the lower order is carried over the arched opening, and the space above filled with a sculptured architectural panel in low relief. The fronts to the circles are formed of gilt-iron railings, presenting a contrast with the stone and marble of the wall surfaces. The construction throughout has been rendered thoroughly fireproof. The general contractors for the work were Messrs. Allen & Sons, of Kilburn; the steel construction being carried out by Messrs. Richard Moreland & Sons; the marblework and stone composition by Messrs. Farmer & Brindley, Westminster Bridge Road.

SAVINGS BANK, ABERDEEN, N.B.—BOARD-ROOM.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last in the premises at Tufton Street, Westminster, Mr. E. Guy Dawber, president, in the chair.

The following gentlemen were elected as members :—Messrs. E. Dickins, D. W. Rowntree, H. R. Levy, P. M. Stratton, W. F. Edge, G. Robb, J. Dovaston, R. S. B. Wyld, G. S. H. Bradford, E. S. Petch, J. G. Alder, B. J. Boothroyd, C. P. Wade, G. Fitzgerald, F. E. Harris and E. Petre.

On the motion of the PRESIDENT a vote of condolence and sympathy was passed to the family of the late John Pollard Seddon, who died on the 1st inst., and who was one of the oldest and most valued members of the Association.

The Rev. G. H. WEST, D.D., A.R.I.B.A., read the following paper, entitled :—

A Comparison between the Mediæval Architecture of England and France.

The manifestations of art, like all other manifestations of creative energy, physical or mental, human or divine, seem subject to a periodic law, and show themselves in outbursts, separated by times of comparative calm or stagnation. And in the case of art these outbursts seem chiefly to arise either under the impulse of a strong single person, or amongst a community so small and so uniform in the conditions and ideals of its existence as to almost possess an individual personality in its capacity for being moved by a single impulse or a strong emotion. Thus some of the greatest developments of art are to be found under despotic dynasties, like the Pharaohs, the Cæsars, the Arab kings of Spain or India, or under a Solomon, an Attalus of Pergamos, a Louis XIV., or else in societies such as those of Athens, Rome and Florence, which, having just passed through a great national crisis, have entrusted their destinies and the artistic expression of their ideals to a single representative, a Pericles, an Augustus or a Lorenzo de Medici.

There are, of course, infinite differences in the capacity of various races for expressing themselves in art, but, as a rule, when a mixed race is in process of being kneaded together, or when it is beginning to disintegrate, we shall find its art fragmentary or illogical and superficial, for in the one case the individuals have not as yet found any single expression of their common aspirations, and in the other the stream is either spreading abroad into the marshes of decay or has been drained off into countless channels to irrigate each man's separate plot and produce there whatever harvest seems best to him.

Nowhere is the working of these laws more clearly seen than in the history of Mediæval art, its origin, progress and decay, from its rise in the royal domain of France in the twelfth century, when the people, having been welded together by their resistance to the Normans, found in the communes the expression of their newly-attained national life, or in England when Norman and Saxon had just become one under the firm rule of Henry II., and later in the rise of the peculiarly English Perpendicular style after the great war with France—a proof of national vigour which finds no echo in the distracted misery of her vanquished foe. Again, no art so clearly as French Gothic shows artistic genius running to waste during the splitting up of the great guilds into the runnels of the separate branches of architectural art, when each worker, instead of joyfully co-operating in the beauty of the whole, became anxious only to show his own individual skill in the technical perfection of his own work—his stone-cutting, his leadwork or his storied glass.

Of the four great divisions of architecture—religious, military, civil and domestic—each during the Middle Ages comes to perfection in succession, each represents a separate period and state of society, and each generally possesses a distinctive style. But of these our time will not suffice to speak of more than religious architecture, the one which, having its roots planted furthest back in the past, is the first to attain anything like maturity.

When the Roman empire began to fall into decay a special officer had to be appointed to protect the poorer classes against the intolerable exactions of the bankrupt municipalities impoverished by reckless expenditure on unprofitable public works, a state of things not altogether unknown in later times and countries nearer us. When the empire became Christian, the bishop was generally selected as this "Defensor Populi," and gradually, as the last links with the Imperial Government were broken, he succeeded to the position and palace of the prætor, whose judgment hall or basilica became his cathedral. In all cities, therefore, of Roman origin—and they were the great majority in France—the cathedral was not merely a place of worship, but the immemorial abode and symbol of justice and liberty for the poor and oppressed.

And in the north, where the kings of France had already formed the kernel of the nation by driving back the Normans, when in the early twelfth century the rise of the communes bound the people finally into one, their joy and enthusiasm found visible expression in rebuilding their ancient basilicas. The king was delighted to use this new vigour of popular life against his too powerful vassals, while the bishop seized the opportunity to win back to himself and his cathedral the religious fervour of the people, which during the two preceding centuries had been somewhat turned away towards the great outlying Benedictine monasteries by their peaceful energy and active goodness. Thus at Amiens in 1115 we find the bishop preaching a crusade against the Sire de Coucy, the king bringing an army of his own men and the citizens turning out *en masse*, even with their wives, eighty of whom were wounded in an assault on De Coucy's stronghold of Castillon. And by the end of the century we find in every city of the royal domain, which was also a free commune and a bishop's seat, a new cathedral being built by the various guilds of lay workmen, and rising amidst the wildest enthusiasm, men, women and children harnessing themselves to the carts to bring materials for those wonderful shrines—Noyon, Soissons, Laon, Chartres, Paris, Rennes and Amiens.

The French cathedral, then, like the Parthenon, is the material expression of a new-born national life. It proclaims the reliance of the people on their king as the dispenser of justice to all, their trust in their bishop as the administrator of the sacraments of God, their confidence in themselves as the inheritors of the past, and, rising from the very midst of the crowded dwellings, and appealing with countless upraised fingers from earth to Heaven, it proclaims itself the palladium of the city's loyalty, of her faith, her love of liberty.

The plans also of these buildings, while deriving from that of the basilica, show that they are not meant only for the common worship, but they are also great assembly-halls, open to all from end to end, with generally a comparatively small choir, and no solid screen between clergy and people.

Now in England our cathedrals tell a very different tale. From quite early Saxon times the great Benedictine monasteries of the Continent had founded missionary daughter-houses in our land, and even when after the Conquest great churches and cathedrals sprang up in every direction they were all monasteries or in the hands of monks, generally Benedictines, so that, as a rule, the bishop was abbot of the monastery, whose church became his cathedral. Our cathedrals, therefore, generally stand apart from the cities to which they belong, nestled amidst the elms of their quiet close, side by side with the chapter-house, where the monks transacted their business during life, and the peaceful cloister where they slept at last, two buildings hardly ever found now in connection with a French cathedral ; for though so-called cloisters did exist in some cases in France, yet they were the dwellings of the secular clergy of the Church, and very early became a tangled mass of tortuous streets surrounded by a wall, not a cloister in the usual sense, and if any of them had still existed—there are remains of something of the sort at Rouen—they would only have marked still more the contrast between the people's cathedrals of the French and ours, which were missionary churches, houses of prayer, telling no story of past popular struggle, no tale of bloodshed, save at Canterbury. Such contrasted views as those of Chartres and Lichfield, Wells and Rouen, sum up completely the stories of the two national churches, and anyone who can remember Rouen as it used to be, with the old houses built against its walls, will be able to realise how completely the French cathedral is the centre of the life of the city.

There can be no more telling contrast than the view of Rouen, with the fortified palace of the archbishop adjoining the cathedral, in the very centre of the town, and that of Exeter from the quiet bishop's garden, with the large-windowed Elizabethan house. The only thing like it in France is St. Ouen, which was a monastery, not a cathedral.

The same story is told by the plans as by the views, perhaps even more clearly. Instead of the great assembly hall of the French cathedral we find in early Norman times the purely basilican plan, single or triple apsed, only very slightly modified.

But when the churches become cathedrals also, and cease to be merely abbeys, they have to serve a double purpose—the Norman apse gives way to an enormously extended choir, which, with the eastern transept and chapels, formed the church of the monks, with a special approach from the cloister; while the western transept, with its chapels and the immense nave, were the cathedral and parish church, cut off from the monks' church by a heavy stone screen, almost an iconostasis, which carried the rood, as at Gloucester and York. This monkish plan is well shown at Lincoln, which when first built by the Benedictine St. Hugh was an almost exact copy of that of the great mother church of Cluny, while later the apse was removed and the eastern portions added.

We shall also find that, whereas the great lay guilds built the French cathedrals and handed down as craft secrets their learning and traditions, so that the constructional development of French Gothic is the result of the severest logical reasoning from first to last, the English cathedrals were frequently built under the direction of the monks, if not actually with their own hands, as at Gloucester, and there is consequently a comparative absence of scientific tradition, much less coherence in purpose and expression, but more individuality and local originality, and while French traditions grow stronger and more binding as the art falls more and more into the hands of a small professional class, and become less and less the expression of popular feeling till it dies stifled by the swathing bands of invariable formulæ, English architecture, less popular at first, but freer in its efforts and expression, comes always more and more into touch with the national sentiment, and finally develops an entirely new form, which never really died, but, adapting itself to the social evolution of the nation, gradually ceased to be chiefly ecclesiastical, and, deserting the cathedral and the monastery for the village church and the crenellated manor, at last, under the Tudors, gave rise to the domestic architecture of that sturdy middle class which has always been the backbone of the English nation; so that while France was rearing Renaissance châteaux for her wealthy nobles, the English squire and his tenants, still side by side as at Crecy, were going on building their country houses and farms on the old lines, adding a new aisle to the parish church, raising a grammar school in the village street, or providing a new college at Oxford or Cambridge to receive its boys.

Thus much as to the influence of the history of the two nations on their art. Let us now turn to its constructional development in each case, beginning with France.

From the time when Christian art began to revive after the fall of the Roman empire, the efforts of all builders in the ancient imperial provinces of Western Europe had been centred in the attempt to do with small materials and a limited supply of unskilled labour what the Romans themselves had never even attempted with building resources such as the world has never seen before or since—to cover the three-aisled basilica, which by long use had become the recognised form for the Christian church, with the stone or concrete vault of the great halls of the Roman baths. The intersecting vault could be managed over the small square compartments of the aisles, but was quite beyond the power of these early builders for the high vault of the nave, while the continuous thrust of a barrel-vault, unless the three aisles were kept of equal height as at Champdeniers, brought all to ruin before long.

By the beginning of the twelfth century it had become obvious that if the problem was to be solved some means must be found for concentrating the thrust upon certain points, preferably upon the corners of a square, either, as at Périgueux, by a series of domes on pendentives, or, as at Vézelay, by the regular Roman intersecting vault. This was the form which ultimately prevailed, for it was a fairly obvious step to work from centrings placed under the angles of the intersecting cylinders, and to get over the difficulty, insurmountable to these early builders, of getting the proper ellipse given by the intersection of two semicircular vaults in one of three ways—either by making the intersecting centrings semicircular and then building a dome round them, as in Aquitaine; or by piling earth on the top till the vaults themselves also became nearly semicircular, though still domical, as at Vézelay; or, as at Durham, by making the centrings segmental. It was at Durham, in England, and a little later at St. Denis, in France, that the great step was made which gave birth to Gothic of making these centrings of stone and leaving them as a permanent support to the vaulting panels, and letting each panel be separately supported by the centrings or ribs. But undoubtedly this intuition was in the air when Flambard and Suger used it, just as printing was when Gutenberg began to work, the steam-engine when Watt and Stephenson took up the ideas of Newcomen and Trevithick, as the electric light and the telephone were in our own day. In it lies the key to the history of all later Mediæval architecture. After St. Denis all French churches exist by and for the vault, the plan of which is in the mind of the builder from the moment when the first stone is laid. It took some time for it to be found out how great the thrust is even of this form of vault, but that abutments are needed only at the springers. This abutment was given at first in the simplest way, as at Durham, by a complete arch over the triforium carrying its roof, and later by a quarter arch butting against the springing, as at Gloucester and the Abbaye aux Hommes at Caen. But it was soon found that these arches should abut higher, and when the triforium became a mere passage they were left outside the roofs and became continually more complex, passing from the simple forms of Chartres to the extremely elaborate and beautiful ones of Amiens and St. Ouen. The principle once admitted of allowing all the constructional parts of a building to be exposed to the weather, nothing can be more perfectly thought out than the French cathedral, where the walls have formed "fours deep" and the thrust of the great vault is carried down to the main buttress by an arch. All the intermediate spaces are mere screens of storied glass, and nothing can be more perfect in its beauty. But, as always in human work, only for a moment did these stern reasoners and perfect artists rest on the summit, and Beauvais is a literal example of that "vaulting ambition which o'erleaps itself." The chiefly passive *rôle* of the buttresses of Amiens in transmitting the vault thrust must be exchanged for an active one, which shall enable the main buttresses to be smaller and the whole building lighter, though even higher, than Amiens.

Let us examine this supreme but splendid folly of Beauvais. In the section E are the piers; on G, their capitals, stand the vaulting shafts; K is the buttress of the triforium, corbelled out somewhat towards the aisles, but leaving the aisle vault quite free; A are two colonnettes, replacing the single one of Amiens, carrying a lintel L, on which are two more short colonnettes, increasing the size and weight of the *tas de charge* or horizontally-coursed springer of the vault, and carrying the head of the flying buttress, which butts against a huge stone, M, heavily weighted by a cornice, pedestal and enormous statue, in front of which are two more columns carrying the great pinnacle above the upper buttress, which charges its head. The more settlement there is towards the interior, where the chief settlement always takes place, the more will these long, stiff columns push up the heads of the lintels L and M and resist the thrust of the vault, provided the columns are strong enough not to break under the strain. To add to this passive counter thrust the architect of Beauvais boldly—too boldly—added an active resistance. The intermediate buttress pier O carried by the aisle pier P is corbelled out half its thickness towards the interior, so that if it were not for the two flying buttresses above it would fall against the cathedral wall, and it is finally stiffened by the two small buttresses S and T joining it to the main buttress pier. But the colonnettes cracked, the lintel L gave, and the blocks M pressing against the flying buttress made it buckle, and nearly the whole had to be rebuilt differently.

Such is the extreme expression of French thirteenth-century Gothic, but while the vault thus dictated the exterior forms of the building, it affected the interior hardly less. The monocylindrical columns, with great voluted capitals derived from Classic times, were soon felt to be unsuitable, as so much of their upper surface was left unused and the arrangement illogical. So in the later columns of Notre-Dame the pier arches have their own column, with a capital of one course, and the main vaulting shaft is the continuation of another column rising from the ground and having its capital at the vault, and the original main column, with a capital of two courses, appears behind these. We thus have the principle of continuity distinctly formulated—that every arch must have its own column, that every column must have its base on the ground and its capital at the springing of its arch. Soon it was felt that every colonnette should have members corresponding to the mouldings of its arch, and so by a gradual transition, which may be well traced at Notre-Dame de l'Epine and St. Ouen, it came to be felt that the capitals had lost their meaning and that all mouldings of all arches should run down to a common base without a break, sometimes dying into one another on the way, as at St. Maclou, but reappearing below, even if their reappearance was marked only by the corners of their imaginary bases supposed to exist inside that of the main pier, but to have been turned round so that their corners project from the face. Though ugly and wearisome in its latest examples, the better specimens of this last French style are many of them singularly beautiful, as is St. Wulfram, at Abbeville, and the smaller details of these churches are often exquisite, like the organ staircase of St. Maclou and its wonderful porch.

To turn now to English architecture. We have already seen how different its history is from that of the French, and its aim and final results are not less different. The two follow divergent paths except during a portion of the thirteenth century, when French influence here was considerable, though not easy to define. First of all is to be noticed in the plan the tendency to bold, square projections and the square east end, both of which may safely be attributed to the persistence of Saxon traditions. We have several stone Saxon churches left, but the great majority were undoubtedly of wood, and in a wooden building, especially if large timber was used, as was sure to be the case in a land so covered with primeval forest as England then was, the projections would naturally be much bolder than in a stone one. Such a church as Borgunds, though itself of late date, doubtless represents older buildings, which, to judge from the Bayeux tapestry, must have been very similar in England. For a time this Saxon tradition was obscured by the Lombardic or basilican plan, with three parallel apses or one single one, used by the Normans in Italy, and probably derived by them from the remains of the Roman building guilds, such as that at Como. English tradition, however, soon reasserted itself, and was finally fixed by the great influx of Cistercians in the twelfth century, whose churches invariably had square east ends. One other peculiarity of the English plan, the great length of the nave, is probably due to the narthex of Cluny, the influence of whose plan we noted at Lincoln, being taken into the church. We have only one instance—Ely—of its persisting in its original form, the Galilee of Durham being hardly a case in point.

(*To be concluded.*)

QUEBEC ARCHITECTS' ASSOCIATION.

THE annual meeting of the Province of Quebec Association of Architects was held at the Château Frontenac, Montreal, on the 20th ult. The following delegates attended from Montreal:—Mr. J. S. Archibald, president; Mr. J. E. Vanier, secretary; Mr. D. R. Brown, treasurer; Messrs. R. Lacroix, A. Chaussé (city building inspector), J. R. Gardiner, C. Dufort, C. S. Burgess, A. A. Cox, J. Venne and Contant.

At the morning session the following officers were elected for the current year:—President, Mr. A. Chaussé; first vice-president, Mr. R. P. Lemay, of Quebec; second vice-president, Mr. D. R. Brown, of Montreal; secretary, Mr. J. E. Vanier, of Montreal; treasurer, Mr. J. R. Gardiner, of Montreal; board of directors, Messrs. J. S. Archibald, Professor Nobbs, of McGill University; R. N. MacVicar, J. Venne, C. S. Burgess and J. P. Ouillette, of Quebec; auditors, Mr. R. A. Decary, of Quebec, and C. Dufort, of Montreal.

The programme included an afternoon session and a banquet at night, but immediately after the election of officers the meeting adjourned out of respect to the memory of the late Hon. R. Prefontaine. It was decided to hold the next annual meeting in January 1907 at Montreal. Mr. J. S. Archibald was appointed president of the delegation to attend the International Congress of Architects to be held in London in July next. The delegation will include Messrs. A. Chaussé, A. F. Dunlop, D. R. Brown, J. Venne and others.

NEWARK CASTLE.

IN the latest report of the Glasgow Archæological Society some correspondence is printed respecting the steps that have been taken for the preservation of the ruins of Newark Castle. Mr. J. D. G. Dalrymple, the president of the Society, wrote to Sir Hugh Shaw-Stewart, the owner of the castle, inquiring if nothing could be done to save the edifice from ruin. In the course of his reply, Sir Hugh said:—

> I share the regret of the Glasgow Archæological Society that the building is in such a condition of ruin, but I wonder if the Society has calculated the amount which would be necessary to place it in thorough repair, and I also wonder if they have any idea of the periodical sums that even now have to be laid out, and were laid out during my father's lifetime, in keeping the roof water-tight and in preventing the building falling into greater ruin than it is now. This latter aim has not been lost sight of for many years past, and last month I gave orders for further expenditure upon the roof, but with the enormous calls for expenditure in all directions which fall upon a landowner, and, in my case, having to find a very large sum for payment of death and succession duties, it is quite impossible for me to lay out more money than I do on Newark Castle without starving other buildings which are a source of livelihood to those who occupy them as farm tenants, &c. So far from being indifferent to the value of a building of architectural and historical interest, I lately refused a tempting sum for the purchase of the ground on which it stands in order that a shipbuilding yard might be erected there. If the Glasgow Archæological Society would like to provide funds for the thorough repair of Newark Castle, I should place no obstacle in their way, but to provide a sum adequate for the purpose myself would be to neglect obvious duties which are cast upon me in other directions in regard to buildings which are of value and interest, not to the past, but to the present and future.

THE USHER HALL MUDDLE.

TEN years ago the late Mr. Andrew Usher, a distiller, gave 100,000*l.* to the Edinburgh City Council for the erection of a hall. The building has not been erected, but a sum of about 30,000*l.* has been expended, mainly on the purchase of an old Synod hall. That was to be demolished and used for a site, but afterwards it was proposed to retain the buildings and to erect some sort of hall in the rear in order to escape the risks of neglecting to carry out the donor's intention. As the muddle has become more perplexing Mr. Thomas Hunter, the town clerk, has been instructed to prepare a report on the whole subject. According to the *Scotsman*, Mr. Hunter says that the fact has to be reckoned with that the Corporation have acquired and now hold the Synod hall premises and adjoining properties for the purposes of the hall and offices in terms of Mr. Usher's trust-deed and the Order of 1903. If the Town Council are not prepared without delay to decide upon the permanent treatment of the site, so as to carry out these purposes most effectively, they should fit up the halls and the premises connected with them so as to allow these to be used as far as their capabilities go, and from time to time let them for the purposes intended.

Discussing alternatives, Mr. Hunter says in the event of the existing buildings being retained without extension, but with internal reconstruction, the properties acquired on the other side of the lane since the purchase of the hall might be disposed of. At least, the Usher Bequest should be relieved of their cost, and the proposal to enlarge the present buildings by taking out the back wall and erecting additions behind would also allow the front elevation to be retained. The abandoned scheme, under which it was proposed to demolish the Synod hall and the reconstruction of a new building, is recommended for careful consideration; and the fourth alternative dealt with is the erection of the hall on the Lothian Road school site. In regard to this proposal, Mr. Hunter points to the lack of information concerning this proposal, and lays stress on the fact that for the purchase of the properties concerned compulsory powers would require to be obtained failing purchase by agreement. It is not open at present, Mr. Hunter points out, to contemplate the abandonment of the present site and the selection of a site in another part of the city. That would require another Act of Parliament, and if compulsory powers of acquisition were wanted, there might be difficulty in obtaining these from Parliament in the event of opposition being offered. Should a change of site be even contemplated, therefore, it would be almost necessary to show that the new site could be acquired by agreement at an ascertained price; and apart from that point, the Town Council, before taking any steps in the direction of acquiring another site, should have before them a definite scheme, showing how the proposed site was to be utilised, and comparing its advantages and cost with those of the alternatives before mentioned. For the present purpose it may be sufficient to repeat here that a change of site to another part of the city is not one of the alternatives at present open.

The sum received from Mr. Usher in 1896 was 100,000*l.* By Whitsunday 1897, it had become apparent that there was going to be difficulty and delay in finding a site, and it was then the duty of the trustees to invest the money in trust securities, and not allow it to lie indefinitely for a long period in bank. The Corporation were at that time making an issue of 750,000*l.* Two-and-a-Half per Cent. stock redeemable at par after thirty years (which was fully taken up), and Mr. Usher's money was invested in 102,900*l.* of the stock, at the net price of $98\frac{3}{4}$ per cent. The lenders got the Corporation obligation for payment of the full capital sum—102,900*l.*—at maturity of the stock, with $2\frac{1}{2}$ per cent. interest annually until then. No necessity has yet arisen for realising any part of the stock, and none of it has been realised. From the issue in 1897 down to May 1902, sales of the $2\frac{1}{2}$ per cent. stock by outside parties took place at prices varying from a little over 100*l.* per cent. to 95*l.* per cent. Since then, only sales of small holdings have taken place, and these have been at prices varying from 85*l.* 15*s.* to 77*l.* 15*s.* per cent. The money market will no doubt return in ordinary course to higher rates, and sales may take place at or near the price of issue. Should the Town Council decide to go on with a building scheme, and the money invested in the stock be required, the trustees may surrender the stock to the Corporation at a price to be agreed upon, instead of selling it in the market. In that case, it would be equitable in the circumstances for the Corporation to redeem it at a price equivalent to the sum which they actually received for it on the date of issue, which would be less than they would have to pay at maturity. At Whitsunday next the Corporation will have provided in the loans fund a sum of 225,000*l.*, as against the redemption of the $2\frac{1}{2}$ per cent. issue of stock, and there will be a further instalment of 25,000*l.* added to this annually. There have been several intromissions with Mr. Usher's money. A sum of 52,300*l.* 17*s.* 6*d.* was paid for the Synod hall and offices, for properties in Grindlay Street and Cambridge Street, including compensation to tenants, and for preliminary expenses in connection with the erection of the new hall. From this there has to be deducted 20,511*l.* 3*s.* 4*d.* received in interest and rents, leaving a balance of 31,789*l.* 14*s.* 2*d.*, which was met by temporary advances from the Common Good and from the bank. So long as no further capital expenditure is incurred the net revenue for the current and future years will go to reduce this balance. In the event of the Town Council deciding to restrict the new hall and offices to the area of the present hall, the trust money should be relieved of the cost of the other properties or credited with the value of these, in which case the balance of the temporary debt would be considerably reduced, thus leaving the bulk of the original capital fund intact. About 600*l.* is being expended upon cleaning and repairing the hall and offices, but that will be charged upon the rents drawn for these premises. With the 31,789*l.* deducted from the original sum there now remains of the 100,000*l.* a sum of 69,824*l.* 0*s.* 10*d.* at the credit of the account at this date. As the temporary advances are reduced by payments out of revenue, that balance will be increased. Up to date the interest received on investments has amounted to 23,360*l.*

PUBLIC MONUMENTS IN EDINBURGH.

THE sub-committee of the Lord Provost's committee of Edinburgh Town Council have had under discussion a motion as to what should be done to restore and preserve the public monuments of the city. It was stated with reference to the Scott Monument that though it might be considered in fairly good order there were parts which required attention. The stonework would have to be carefully gone over, and any parts that required it judiciously painted. Owing to exposure the marble figure of Scott had now a granular surface, which would have to be removed by careful scraping or filing, after which the figure would have to be repolished. The same treatment would have to be given to the marble figure of Allan Ramsay, which, owing to its more exposed situation in Princes Street Gardens, was black and discoloured in parts. In connection with the Burns Monument on Calton Hill, the report stated that the stone showed signs of increasing waste. Some years ago portions of the more delicate parts were found to be obliterated, and they were renewed with cement-work. Now, however, it would be advisable to effect any renewals of this description by stone insertions. Th Livingstone Monument, the Adam Black, Wilson an Simpson memorials in Princes Street Gardens, it wa further stated, would require to be thoroughly washed an polished; the bronze figure and the granite stonewor of the Prince Albert Memorial in Charlotte Square, th Chalmers, Pitt and George IV. monuments in George Stree would have to be similarly treated. The Dugald Stewar Monument on Calton Hill was in need of attention, particu larly the panel, and the inscription required recutting. considerable amount of pointing required to be done o Nelson's Monument, but though some portions of the roc below it were found to be wasting, it was not necessary t deal with it at the present time. The committee agreed t recommend in terms of the report, with the further recom mendation that expert advice be taken as to the manner i which the marble figures of Scott and Ramsay should b treated.

COMPETITION IN AMERICA.

ONE of the subjects considered at the convention las month of the American Institute of Architects wa competitions. The state of opinion among the member may be inferred from the following speeches :—

Mr. George B. Post said :—I was not one of thos scheduled to take part in this discussion, and consequentl what I say must be absolutely without preparation. I an sure we shall all agree without a dissenting voice that a fa better result is obtained by election of an architect than b competition. But at the same time we must realise tha from the time the boy goes to the architectural school unti he goes to the office to practise as an assistant his entire lif is one of daily and perpetual competition, until competitio is so thoroughly inbred into his composition that we canno eradicate it in practice. Therefore I think we must accep competition as a necessary evil, and then to use our utmos exertions as individuals and as an institute to see that com petitions are properly inaugurated and conducted, and tha the awards are made with fairness and propriety.

Personally—and I speak it with considerable experienc in the matter of competitions, for I have during the rathe long periods of practice erected over fifty million dollar worth of buildings, and the greater part of it was gained i competition—I have not altogether a perfect reliance on th ordinary expert jury. Except in the matter of competitio for a design like that of a great monument, which is purel artistic in character, the expert should always be a prac tising architect, or several practising architects, who kno the practical solutions possible, and who can see as th theorist cannot see, the whole problem as controlled by th practical considerations. I believe in the wisdom shown b the board of directors with regard to the Cook Count Court-house competition, in stating the facts of the com petition and giving the names of the participants, and the adding that these facts are published, and nothing more.

Mr. John M. Carrere said :—I want to start by pleadin guilty. I have entered a great many competitions. I cann tell you the exact number, but I think in my twenty-on years of practice I have entered over forty. What tha means in time and labour and money you can judge fro the statements made to-day. I have won five. I cannot sa that it has been a profitable investment. Neither do I fee that I would not have arrived at the same end withou going into these competitions. The spirit of competitio of friendly and legitimate competition, is born in us throug the methods by which we work, and though there wi always be competitions, and rather discouraging competi tions, we should try to make them fruitful. There can b only a few reasons for a competition. One is the desire o the practitioner to increase his practice, and I think that i admittedly a failure. The same amount of effort, mone and skill spent in other directions would produce bette results. The other reason is to obtain the very bes design, and I fail to see in this country or any othe country that the most noted competitions have brough about results which could not have been obtained by direc selection. A third reason which is prevalent and which i natural is the desire to discover new talent. I do no sympathise with that at all. If a man has talent his da will come, and it should not come until he is prepared t make use of it. A man who has genius to express hi original ideas should be entrusted with nothing more tha the presentation of them on paper, but when it comes t the serious work of actual business that requires not onl the experience of the practical side of things, but th practical artistic experience, the experience to know that a thing that is on paper represents a thing that is going to look well in execution; and that refers to every detail of the plan, the very texture of the material. That requires practice, and cannot be acquired by any man, no matter what a genius he may be, without practice.

If competitions are to be conducted as has been stated to-night the most important element lacking is the ability of the architect to get into touch with the problem through his client and evolve a solution. The danger with a system of competitions for the Government work is that it establishes an official type of architecture, which would not be the case if the men would start their design without the idea of winning the prize. To particularise. I do not believe there is a successful example anywhere in the world of a monumental building in which an order is the main feature unless there are two storeys. Now, the Government type requires four, five and six storeys, and our architects are obliged to crowd innumerable storeys into that order. But if I were invited into any such competition I would put in more than two storeys, and I have myself decided that way because it seemed the best solution presented. As I look around me in this country, and pick out the buildings which to me seem most successful, I do not believe that the great majority of those buildings would have won the prize in any competition. For example, I need not tell you that I would be satisfied to have McKim, Meade & White build every building in the country. I am a great admirer of the University Club. But can you imagine a drawing like that presented in a competition and winning a prize? I cannot.

The special committee offered the following suggestions:—

1. The object of the competition should be to secure the most skilled architect as shown by the schemes which he presents.

2. An architectural adviser should draw up the programme, and advise the owner in relation to technical questions in making the programme, selecting the scheme and the architect.

3. The amount to be expended on the work should be sufficient within a reasonable margin to erect a structure of the character and size indicated in the programme, or there should be no cost price stipulated.

4. The programme should be in the form of a contract which guarantees the employment of the successful competitor to make the drawings for and supervise the work of the proposed structure at a proper remuneration.

5. All competitors who have notified the owners of their entering the competition should meet and, after discussion with the owner, agree upon conditions which will be binding upon the owner and the competitors.

6. Payment of competitors in a limited competition should be guaranteed sufficient to cover the preparation of the drawings demanded, and prizes or premiums in open competitions to cover such expense for at least the five best schemes.

7. The minimum amount of drawings should be required to express the design and arrangement.

PUTNEY SCHOOL OF ART.

The committee of the Putney School of Art have intimated that it has been unanimously resolved to request the London County Council to take over the school. The school is situated at the corner of Oxford and Disraeli roads, Putney, and the building and freehold of the site are the property of Mr. W. J. Lancaster, from whom the school committee rent the building at a fixed annual rent of 125*l.*, which represents 3 per cent. on the sum of 4,187*l.*, which was the actual expenditure incurred by Mr. Lancaster for the site and buildings. The school committee have also the option of purchasing the freehold of the premises from him for the above-mentioned sum of 4,187*l.* on giving three months' notice at any time before Michaelmas, 1916. The premises are not at present rated, but if at any time they become rateable this additional expense would fall on the Council. Having regard to the state of the money market, the present time is not considered a favourable one for the purchase of the freehold and site. The rent of the premises is a reasonable one, and therefore the Council might with advantage conduct the school and rent the premises on the same terms and conditions as those under which it has been conducted by the present school committee.

The accounts approximately balance, the receipts being 938*l.* on the present scale of grants and the expenditure 928*l.* 10s., omitting all questions of new equipment or repairs other than expenditure on normal repairs. It is probable that under the Council the expenditure on printing and advertising will be increased, but a considerable increase in the number of students may also be anticipated. There are about 100 students in attendance at the evening classes, thirty-eight at the morning and twenty-nine at the afternoon classes. The education committee having recommended that the offer of the committee of the Putney School of Art to transfer the school to the Council be accepted upon conditions similar to those at present in force, it was referred to the Council's officers to prepare the necessary documents in connection therewith, and that the seal of the Council be affixed thereto if necessary. The Council on Tuesday agreed to the arrangement.

TESSERÆ.

Hogarth's Line of Beauty.

An inspection of nature and art, and especially of the human figure, has generally produced the conviction that the line of greatest grace and beauty is not any of the curves treated of in geometrical works, but a waving line or bicurve, which is well known by the name of Hogarth's Line of Beauty, or the ogee or cymatium of architecture. And, indeed, to be convinced of its beauty nothing more is necessary than to inspect any object whose contour is felt to be peculiarly beautiful, such as the axial line of the human figure when in a graceful attitude, or the outline of any part of the human form that is eminently capable of beauty: the mesial line of the back, the form of the bosom, the arms, the legs, the hands, the feet, the head, neck, brow, eyes, mouth, nose, cheeks—in a word, any beautiful part. It will be found to have its contour defined by waving lines such as have just been described. In like manner let the form of any animal remarkable for its beauty be inspected, as, for instance, an Arabian horse, a greyhound, a swan, a peacock, a dove, a fish; they will all be found, so far as they are beautiful, to be defined by the waving line, or a part of it, varying in curvature perhaps, but not at all in nature. The forms of those beautiful artificial objects also which owe their beauty to their contour, such as Greek and Etruscan vases, arabesques, scrolls, and tracery in architecture and on furniture, foliage, and flowers, and almost all the ornaments of Greek architecture, will all be found to owe their beauty to the same bicurve under some form or another. The elements of beautiful landscapes also, such as the outlines of hills, the courses of rivers, the margins of lakes, or the sea-shore—in a word, wherever there is a peculiar grace or softness of aspect in any object, whether of nature or art, the bicurve which has been described will be found to enter into its composition. This, however, is no new principle, but has already been fully developed, and, indeed, pressed a great deal too far by Hogarth in his "Analysis of Beauty," and has since his day been generally assented to as far perhaps as it ought to be.

Dante and Giotto.

Giotto falls by right into Dante's circle, as one great man comes naturally to know another. But he is said actually to have lived in great intimacy with Dante, who was about twelve years older than himself; Giotto having been born in or near the year 1276, at Vespignano, fourteen miles from Florence. He died in 1336, fifteen years after Dante. On the authority of Benvenuto da Imola (an early commentator on the "Commedia"), of Vasari, and others, it is said that Dante visited Giotto while he was painting at Padua; that the great poet furnished the great painter with the conceptions of a series of subjects from the Apocalypse which he painted at Naples; and that Giotto, finally, passed some time with Dante in the exile's last refuge at Ravenna. There is a tradition that Dante also studied drawing with Giotto's master Cimabue, and that he practised it in some degree is evident from the passage in the "Vita Nuova," where he speaks of his drawing an angel. The reader will not need to be reminded of Giotto's portrait of the youthful Dante, painted in the Bargello at Florence, then the chapel of the Podesta. This is the author of the "Vita Nuova." That other portrait shown us in the posthumous mask—a face dead in exile after the death of hope—should front the first page of the Sacred Poem to which heaven and earth had set their hands, but which might never bring him back to Florence, though it had made him haggard for many years.

Giotto's canzone on the doctrine of voluntary poverty—the only poem we have of his—is a protest against a perversion of Gospel teaching which had gained ground in his day to the extent of becoming a popular frenzy. People went literally mad upon it; and to the reaction against this madness may also be assigned (at any rate partly) Cavalcanti's poem on poverty, which is otherwise not easily explained if authentic. Giotto's canzone is all the more curious when we remember his noble fresco at Assisi of Saint Francis wedded to Poverty. It would really almost seem as if the poem had been written as a sort of safety-valve for the painter's true feelings during the composition of the picture. At any rate, it affords another proof of the strong common sense and turn for humour which all accounts attribute to Giotto.

Wren on Church Building.

When the Act for building fifty new churches in the Metropolis was passed Wren was appointed one of the commissioners for carrying it into execution. Preparatory to entering on his new appointment, he communicated his opinions to one of his brother commissioners upon the best manner of conducting this important business. This document, which is very long, consisting of eight sections, with a proemium and conclusion, is given at length in the "Parentalia." It begins by stating that since Providence in great mercy had protracted his age—his seventy-eighth year—to the finishing of the Cathedral of St. Paul and the parochial churches of London, all of which were executed during the fatigues of his employment in the service of the Crown for so many reigns, and being constituted one of the commissioners for building fifty more churches in London and Westminster, he presumed to communicate his sentiments, after long experience. He advised that the new churches be built not in the extremities of the suburbs, but among the thicker inhabitants, even if the ground should cost more. He wished that all burials in churches should be disallowed, as being not only unhealthy, but that the pavements could not be kept even nor the pews upright; and if the churchyards were close about the church it would be bad, because the ground being continually raised by the graves would cause in time a descent into the church by steps, which renders it damp and unwholesome, and causes the walls to be green, as seen in all old churches. In reply to a question where shall be the burials, Wren answers, in cemeteries in the outskirts of the town, where two acres would cost less than two roods among the buildings. He also discusses the best situations, forms, ornaments and materials, as stone, lime and brick, which latter material he proves from ancient ruins could be made as good in London as in ancient Rome if properly managed, although those made for the thousand and one houses hastily run up after the fire would scarcely bear the slightest weight. In this discussion Wren takes occasion to mention, incidentally, the superiority of stone-lime over that burned from chalk, then and subsequently so much used in London, from its contiguity to the chalk cliffs of Kent and Essex. The vaulting of St. Paul's, he says, is coated by a rendering as hard as stone, composed of cockleshell lime and sand well beaten, and the more labour in the beating the better, and the mortar the better. Churchwardens, he says, may be careless in speedily repairing drips, but they will usually whitewash the church and set up their names, but neglect to preserve the roof over their heads.

Galleries in Buildings.

In architectural language a room can hardly be called a gallery unless its length be three times its width, for else, though as a room it might be considered long, as a gallery it would be short; therefore, if a spacious apartment, it would answer to the character of a hall, as is the case with the Waterloo Gallery in Windsor Castle, whereas the adjoining St. George's Hall might more appropriately be termed a gallery, its proportions being those of one. On the contrary the Victoria Gallery, in the Palace of Westminster, is, according to the architect's admission, avowedly a hall, and not a gallery, its dimensions being 100 feet by 45, consequently an architectural misnomer has been intentionally given to it. But though the length of a gallery as compared with its breadth ought not to be less than what has been stated, it may be increased to any extent without danger of excess, unless the gallery should thereby be rendered far too pompous and spacious to be at all in keeping with the other apartments, as was generally the case in Elizabethan mansions. The proportion as to height in galleries is regulated solely by width, which may be nearly equal to each other, the height being a little more or le than the breadth, according as the ceiling is arched or fla because the height being the same, the walls will be low in the former case than in the other. It is to be observe however, that a very long gallery will bear to be somewh loftier than one of moderate length; at the same time must be borne in mind that the height must not be such to occasion the effect of narrowness and produce the pr portions of a mere corridor. Very low proportions, on th contrary, rather than height are one characteristic of ga leries of the Elizabethan period, so much so that some them look quite depressed by their heavy flat ceiling whereas halls in the same buildings are frequently di proportionally high owing to their occupying two storeys the building, and being, besides, sometimes not twice the width in length. There is hardly anything in the interi of a building which lends itself so readily to architectur effect as a gallery, since, if it at all answers to its nam there will at any rate be that of lengthened perspective ar vista. In fact, the very name itself excites expectations superior design and taste, because rooms of the kind belon to the luxuries of architecture, and are rather intended f state and display than for any actual use as rooms, exce on extraordinary occasions. Hence galleries are by means common even in spacious and sumptuous mansion consequently it very rarely happens that an architect h an opportunity of exercising his talent for interior desi upon what holds out so much scope for the display of and this, no doubt, is one chief reason why the subject itse is so slurred over in professional treatises, for it certain does lie quite out of the track of everyday practice.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

AT the rooms of the above Society on Thursday, th 8th inst., Mr. H. Percy Adams delivered a lecture "Sanatoria," Mr. W. H. Thorp in the chair.

Mr. Adams, in dealing with the general principle of sanatorium, remarked that such institutions should serv two purposes—the healing of patients suffering from lur diseases, and also, that they should act as schools whe people were systematically taught the value of fresh air ar cleanly habits, so that when the patients left and were di tributed among the community they should spread th knowledge so acquired as well as practise it in their home Therefore such an establishment should be a model hygienic requirements. Sanatoria might generally divided into two classes—the American or cottage type, ar the concentrated or hotel type. He expressed the opinic that for the accommodation of anything like one hundre patients the hotel type of sanatorium was a practic necessity, but for small establishments of about twent beds the cottage type was probably the best fro a purely medical point of view. No sanatoriu built in England on the cottage plan had mo than twenty beds, but on the Continent they som times had more than fifty patients. He argued th there was no economy in erecting buildings of a purel temporary character because there was so much in commo between such structures and those of a permanent ch racter. Speaking of the Germans as having been th pioneers of these institutions, many of which had bee erected by the insurance companies, Mr. Adams showe views and plans on the screen of a number of these institu tions, many of which he had visited, and gave many detai of their arrangements. He then proceeded to give th history of the movement which resulted in the conceptio of the erection of the King Edward VII. Sanatorium, which he is the architect, and gave many details of th structural features and arrangements of the establishme now approaching completion at Midhurst.

Mr. E. R. Dolby, engineer, of Westminster, who ha been associated with Mr. Adams in the erection of th King Edward VII. Sanatorium, described details of th heating, hot-water service and electrical arrangements the Midhurst Sanatorium.

A vote of thanks to the lecturers was proposed by M Butler Wilson and seconded by Mr. H. A. Chapman.

Mr. Alfred Robert Finch has been appointed boroug engineer and surveyor of Kensington, in place of M William Weaver, who resigned after forty years' service.

Correspondence

An Aisleless Church.

SIR,—In reply to Mr. Mackrell's inquiry in last week's sue respecting a church built in or near London without illars, I beg to refer him to three which most readily occur o the memory, St. Paul's, Knightsbridge, St. Gabriel's, romley-by-Bow (neither of which, however, can be held up for imitation or admiration), and the nave of St. Ethelreda's, Fulham.

I may be wrong, but I take it that your correspondent is esirous of meeting with a church so planned that the whole of the congregation may be within view of the high ltar. In illustration of this permit me to draw his attenon to one of the most remarkable churches that have been uilt in the neighbourhood of the Metropolis since the cclesiological movement—St. Faith's, Londesboro' Road, toke Newington. Begun in 1872 from the designs of William Burges, and conceived in his style of predilection—orthern French of the latter part of the twelfth century—it was partly finished in 1873, and, its distinguished designer aving passed away in the interim (1881), was carried on to ompletion ten years later under the direction of the late Mr. James Brooks.

What Burges's model was for St. Faith's, Stoke Newington, I cannot state with precision, but the three buildings which, it is not improbable, he had in his mind are the hapel in the Archbishop's palace at Reims, the *pourtour* f the choir of St. Jean at Sens, and the graceful early hirteenth-century church of Nun Monkton, near York. It onsists of a nave and chancel, the latter ending in an apse f noble sweep, all contained beneath one line of simply-oved roof, possibly inspired by that at Tillard, near Beauais, in the Department of Oise. In lieu of aisles there are low and very narrow passages, or *Vomitoria*, formed in the hickness of the walls and opening into the broad nave by riplets of pointed arches on transversely coupled columns with boldly foliaged capitals. Along the top of these rcades runs a continuous triforium gallery lighted by very tall lancet windows arranged in pairs, and affording a noble field for the display of stained glass on the model of that at Canterbury, Auxerre, Sens and other great northern Early Pointed churches. Unfortunately such tained glass as has been inserted in the church is quite alien to the spirit of its architecture. Above a very imposng double doorway in the turret-flanked west end is a rose of grand dimensions.

The apse of this church viewed from the north-east is very striking, and quite unlike anything else with which I am acquainted in or about town. It may be mentioned that about twenty-five years earlier Mr. Clutton, who for some ime collaborated with the architect of St. Faith's, built St. Jude's, Bethnal Green (one of Bishop Blomfield's ten churches), with a nave planned very similarly to St. Faith's, hough the structure taken *en masse* with its angle turrets, and apse arcaded just below the eaves, recalls those of the Rhenish provinces.

Should your correspondent be paying a visit to St. Faith's he should not leave unseen two other Stoke Newington churches no less remarkable. I allude to St. Matthias from which St. Faith's sprang), situated in Goldsmith Square, near Newington Green; and St. Mary's, the parish church, close to Clissold Park, at the west end of Church Street.

St. Matthias, a specimen of Butterfield's Early Middle Pointed work in his more chastened method, is distinguished by its gabled tower rising at the east end of a nave 70 feet high by only 25 feet in breadth. The interior, albeit very severe, has a dignity and solemnity that has rarely been surpassed in modern church building; indeed, the whole structure bespeaks the noble sentiment which must have pervaded the minds of its architect and promoters.

St. Mary's, finished with the exception of the upper part of the tower and the spire in 1858 (five years later than St. Matthias), is a grand, and at the same time graceful, conception of Sir Gilbert Scott.

At that time, as many of your readers will remember, Sir Gilbert's work was greatly influenced by the study of northern continental Gothic. Accordingly we find in St. Mary's, with its western steeple, gabled aisles, shallow transepts, chancel ending in a five-sided apse, and tall cylindrical columns whose boldly yet gracefully carved capitals represent an infinite variety of flowers and foliage, a combination of the north-eastern French, Belgian and German schools. In many features it may be compared with the architect's almost contemporary churches of St. Paul, Dundee, and St. Andrew, Ashley Place, Westminster.

Reverting to the subject of Mr. Mackrell's letter, I may take the opportunity of saying that, of late years, no architect has solved the problem of designing an aisleless church more clearly and gracefully than Mr. Walter J. Tapper in his churches of St. Erconwald, Southend, and of the Ascension at Malvern Links.

With apologies for the length of this communication,—Believe me, yours faithfully, T. FRANCIS BUMPUS
(Vicar's Warden, St. Matthias.)

Glebelands, Stoke Newington:
Septuagesima, 1906.

P.S.—In the obituary notices of John P. Seddon, which have appeared during the last week or so in the secular and ecclesiastical press, I find no mention of his delightful book "Rambles in the Rhine Provinces," originally published in 1868, and showing him to have been as clever with his pen as with his pencil. I take this opportunity, therefore, to remind your large and, I trust, ever-growing circle of readers of this valuable contribution to the ecclesiology of Northern Europe.

Minley Manor.

SIR,—My attention has been called to a note in a recent issue of your paper, accompanying a photograph of Minley Manor, the design of which you ascribe to the late George Devey. It is true that Mr. Devey carried out some very extensive alterations and additions at Minley, but it is quite erroneous to ascribe the building to him, since it was designed by Henry Clutton in a style foreign to Mr. Devey's taste. He naturally adapted the new work to the style of his predecessor as far as practicable, but there is no instance of similar design on his part where he was quite unhampered. In the portion illustrated by you Mr. Devey is responsible only for the octagonal tower (up to the parapet) and the porch. The roof and lantern to the tower, besides many other important and more recent additions, is the work of Mr. Arthur Castings, who was intimately associated with Mr. Devey during his life. No one welcomes more than myself any tribute that may be paid to Mr. Devey's memory, for the beauty of his work deserves a greater and wider recognition than it has ever yet received. But he died in 1886, and it is with increasing difficulty that we can trace his hand in such work as has been modified and altered since. I shall be obliged, therefore, if you will give publicity to this letter, which may tend to remove a wrong impression in the minds of your readers.—I am, sir, yours faithfully, WALTER H. GODFREY.

11 Carteret Street, Westminster:
February 8, 1906.

R.I.B.A. Fellowship.

SIR,—I am sorry that it should again be necessary to ask your assistance on this vexed question.

Is it not time that the Council settled the real function and purpose of the Fellowship? Is it (1) a means of providing money for the exchequer; or is it (2) a means of keeping in check the Associates; or is it (3) a means of recognising eminence in professional work?

The recent nomination and election of the group of really leading men might imply that (3) was the motive, and that the Institute wished to honour men of power and eminence; but many of us wish to know whether the secretary informed these gentlemen how the members of the profession have been begged and entreated to become Fellows (not, be it noted, Associates), and what a brilliant company of colleagues in the Fellowship have been and are being provided for them.

I should like to have an opportunity of expressing the widespread disgust and scorn with which the action of the R.I.B.A. is regarded by all whom I meet; and as showing that this is not a merely personal expression of opinion I may state that I hold letters from most of the leading provincial allied societies strongly endorsing the protest of the Leeds and Bradford Associates, which I was instructed to forward to you and to them.

If the Institute sees fit to flout the strongly-expressed protest of the allied societies in this way, and if the London men are content to be ignored, it will become necessary, and not for the first time, for the provinces to lead; and I think I can promise them an opportunity of voting by ballot on some of the nonentities who are rushing in to what was once thought to be the more honourable class of membership.

There are, of course, other methods still possible of bringing our views before the members of the Institute; and our members here feel so strongly on the matter that we intend to make the matter a test question in voting at the forthcoming Council election.

Leeds. FREDK. MUSTO, A.R.I.B.A.

Assumption of the Letters "F.S.A."

SIR,—In reply to a letter appearing in your issue of the 9th inst., under the heading of "Assumption of the Letters F.S.A.," and signed by Mr. St. John Hope, may I remind your correspondent that the Society of Antiquaries of London is not the only Society of the kind existing, and that I belong to the equally well-known Society, the Society of Antiquaries of Scotland, of which I was elected a Fellow in 1904, and therefore am entitled to use the letters "F.S.A." equally with Fellows of the Society of Antiquaries of London.—Yours faithfully, H. STEWARD WATLING.

Kingsway House, Dovercourt:
February 10, 1906.

Motors Affecting House Property.

SIR,—It is not generally realised, except by the sufferers, how much motor cars have depreciated the value of such house property as is situate on main roads leading to and from towns. On a dry, dusty day last summer I saw a large motor travelling at great speed on a main road. I was on a hill and could see the effect, which was to raise a cloud of dust half a mile long. In warm weather windows are kept open, and houses which are situate on main roads are therefore smothered in dust every day, to the detriment of their contents and discomfort and injury of their occupants. I have heard of houses on main roads having been vacated for this reason by the tenants, and the landlords, having been unable to relet them, have appealed for a reduction of rates in consequence. The houses now in demand are those which stand well back from main roads, being approached by a long carriage drive. Professor Thomas Oliver said in a lecture he gave at the Royal Institute of Public Health last October that the dust raised by motor-cars carried into the atmosphere germs of every description, which often remained in suspension for a considerable period, and that the consequences were prejudicial, not only to the individual, but to the climate of our country.—I am, &c., C. F. DOWSETT.

Winklebury, Basingstoke.

Holborn New Town Hall.

SIR,—The Holborn Council have decided to invite six architects to compete for the erection of their new town hall. Why not have let the work go to public competition? The tendency to ask some six favoured gentlemen to work a limited competition is too much on the increase; surely all public work should be thrown open to public competition, and so secure good work and give that stimulus to the profession which is so sadly required. The young architect is by that means given his opportunity, and has an equal chance with his older and more fortunate professional brethren?—I am, yours, &c., A.R.I.B.A.

GENERAL.

Mr. Jesse Horsfall, of Manchester, has been awarded the first premium of 30*l.* in the competition for a free library at Crompton, to be erected at a cost of 3,500*l.* A premium of 20*l.* has been awarded to Messrs. Dixon & Potter, Manchester; of 15*l.* to Mr. Thomas J. Hill, of Manchester; and of 10*l.* to Messrs. John Eaton, Sons & Cantrell, of Ashton. The adjudicator was Mr. G. H. Willoughby, of Manchester.

The Cardiff Public Works Committee are to take measures against the nuisance alleged to be caused by the increase in number and sizes of tradesmen's signs. The Corporation have power to interfere when the signs are an obstruction, annoyance or nuisance to the public.

The American Society of Civil Engineers at their annual meeting in New York appointed a sub-committee to report on a proposed amendment to the constitution, by which Art. II. Sect. 2 would read as follows:—"A member shall be a civil engineer who shall have reached a position of recognised standing in the profession in its several branches, including military, naval, mining, mechanical and electrical engineering, or in architecture or marine architecture. He shall be at the time of his admission to membership not less than thirty years of age."

The Flintshire Education Committee have decided view of early legislation to defer the consideration of pl submitted by the managers of non-provided schools for erection of new buildings.

The Annual Report of the Glasgow Archæologi Society states, with regard to the rebuilding of Glasg Royal Infirmary, that the managers seem determined proceed with their scheme without modification, with result that the huge "Jubilee Block," to front Cathed Square, will destroy the appearance of the cathedral.

The Kent Archæological Society will visit Canterbury June for their annual meeting and excursions.

The Council of the Royal College of Surgeons h agreed to contribute 10 guineas towards the rebuilding the tower of Hempstead Church, Essex, where Willi Harvey, the discoverer of the circulation of blood, is buri

An Oak Tablet recording the names of the deans canons of Carlisle since the Reformation has been pla on the north wall of the fratry of the cathedral. It designed by Mr. Martindale, architect. According to inscription the tablet has been "made in 1905 from a r beam of the old tithe barn, built circ. 1425." The first de mentioned is Lancelot Salkeld, "Last prior 1541, depriv 1547, restored 1553, died 1560."

At the Last Meeting of Edinburgh Town Council Lord Provost gave notice of a motion that "the To Council resolve to offer a site or give substantial assista to the building of an art school in Edinburgh, conditiona that an adequate grant is made by the Scottish Educat Department from the suspense fund of the grant in aid, a remit to the Lord Provost's committee to confer with ot public bodies interested to make the necessary arran ments regarding details and to make immediate applicati for a grant."

Mr. Francis Webb Wentworth-Sheilds, M.I.C.E., Brentwood Sholing, Southampton, who died on January left estate of the gross value of 2,382*l.*, with net persona sworn at 2,363*l.*

Mr. James Lord, district sanitary inspector of Ma chester, has been awarded the Chadwick gold medal for best paper on "What Amendments to the Existing Pub Health Acts are most Essential to Benefit the Community This subject was selected by the Chadwick Trustees, a Mr. Lord has secured the first gold medal offered by the together with a cheque for 50*l.*

Mr. James Thomas Linnell, of Redhill, Surrey, lan scape-painter, who died on November 26, left estate of t gross value of 54,736*l.* 14*s.* 7*d.*, including personalty of t net value of 45,114*l.* 10*s.* 11*d.*

Mr. Evan Spicer, vice-chairman of the Council, on beh of the Society of British Sculptors, presented a petition the London County Council on Tuesday, asking the Coun to grant a temporary site and building where an exhibiti of examples of the art of sculpture could be properly he The petition was referred to the improvement committee.

An Exhibition illustrating the Georgian period will held in the Whitechapel Art Gallery, London, during Mar and April. Views of the architecture of the period will represented.

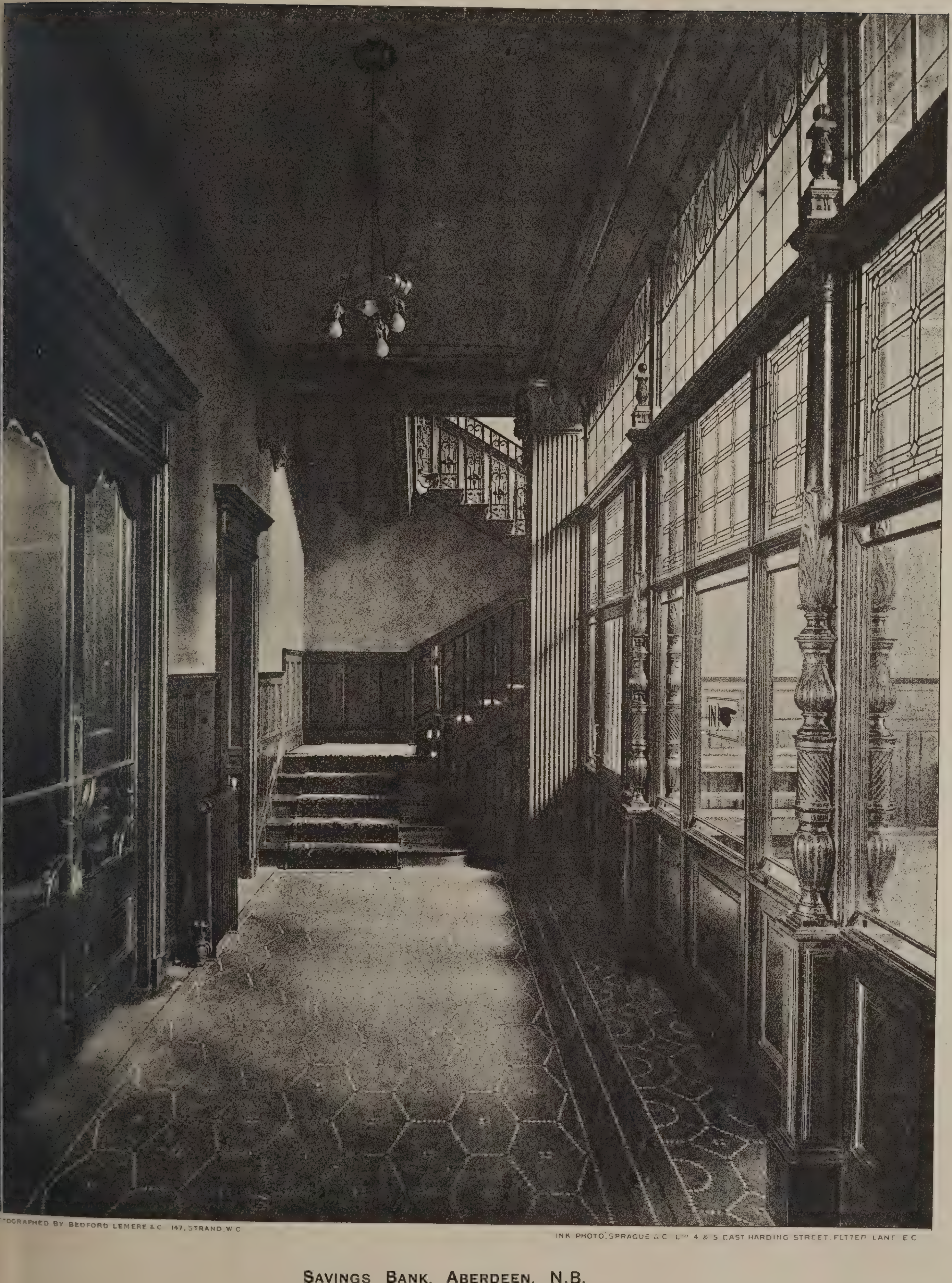
An Amalgamation of the Moffat Hospital Trust and t Nursing Association, Edinburgh, has been accomplish Out of the money available a cottage hospital, which nearly completed, has been erected in Selkirk Road fro the designs of Mr. C. H. Maidman, Edinburgh.

The Norman Church of St. James, Dover, had a narr escape from destruction by fire on Monday. This chur contains the ancient Cinque Ports Court of Admiral where maritime cases concerning the Cinque Ports we heard down to the time of the Duke of Wellington's Lo Wardenship. The fire occurred from overheating.

The Foundation-stone of a new art school as an additi to the Wedgwood Institute, Burslem, was laid on the 9 inst. The tender of Messrs. W. Grant & Sons, amounti to 6,500*l.*, was accepted for the work. The designs ha been prepared by Mr. A. R. Wood.

The Dublin Museum has obtained a very important examp of early pewter, viz. one of the celebrated "Temperantia salvers, by François Briot, a Swiss artist who worked France in the latter part of the sixteenth century, and who pieces were imitated by Gaspard Enderlein, a Nurembe artist of the seventeenth century. It is richly ornament with arabesques, and with panels containing figures relief emblematic of the seasons, &c., and has on the back medallion portrait of the artist. A fragment of the ew which accompanied it was also obtained.

The Architect, Feb^y 16^th 1906.



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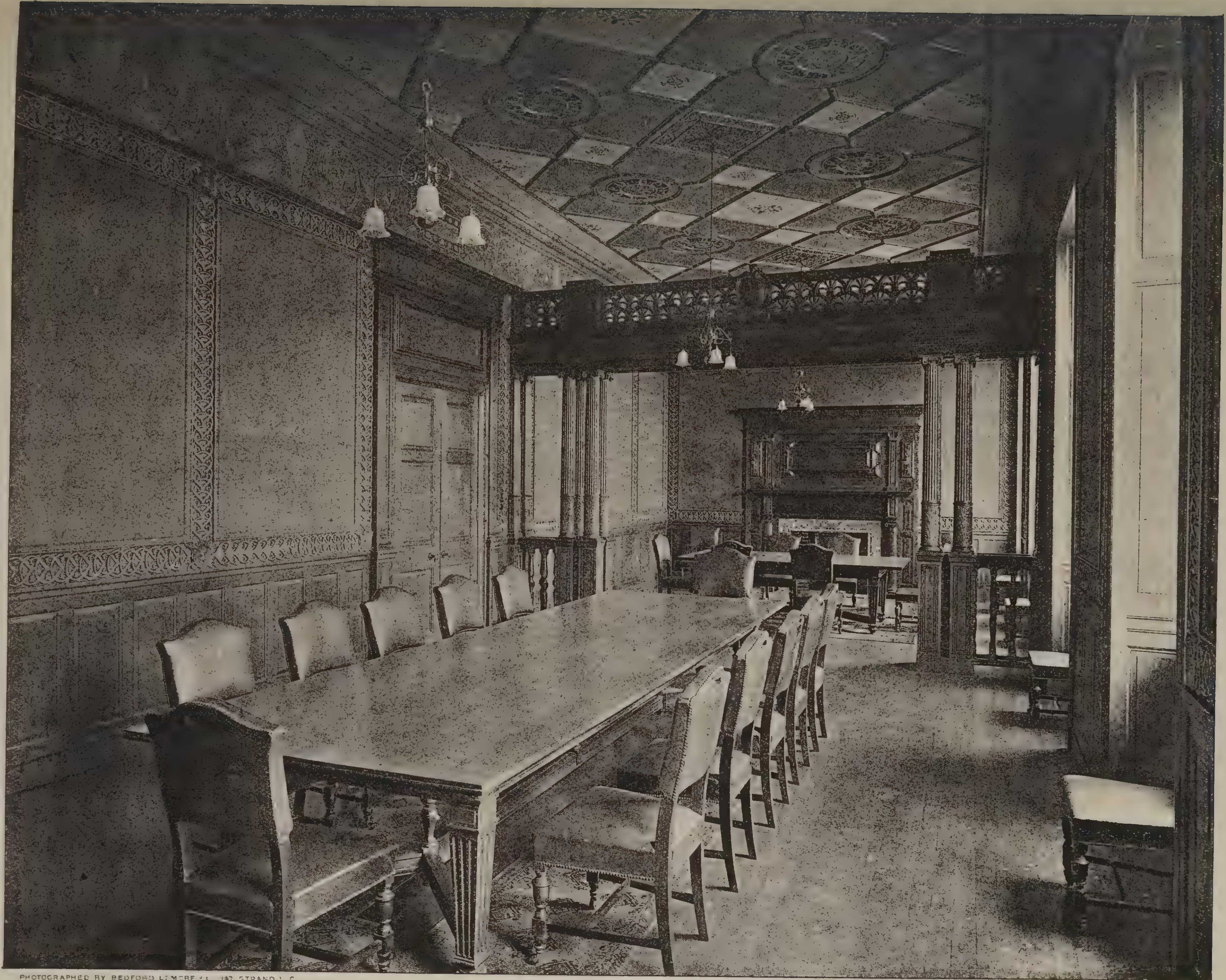

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SAVINGS BANK, ABERDEEN, N.B.: BOARD ROOM.

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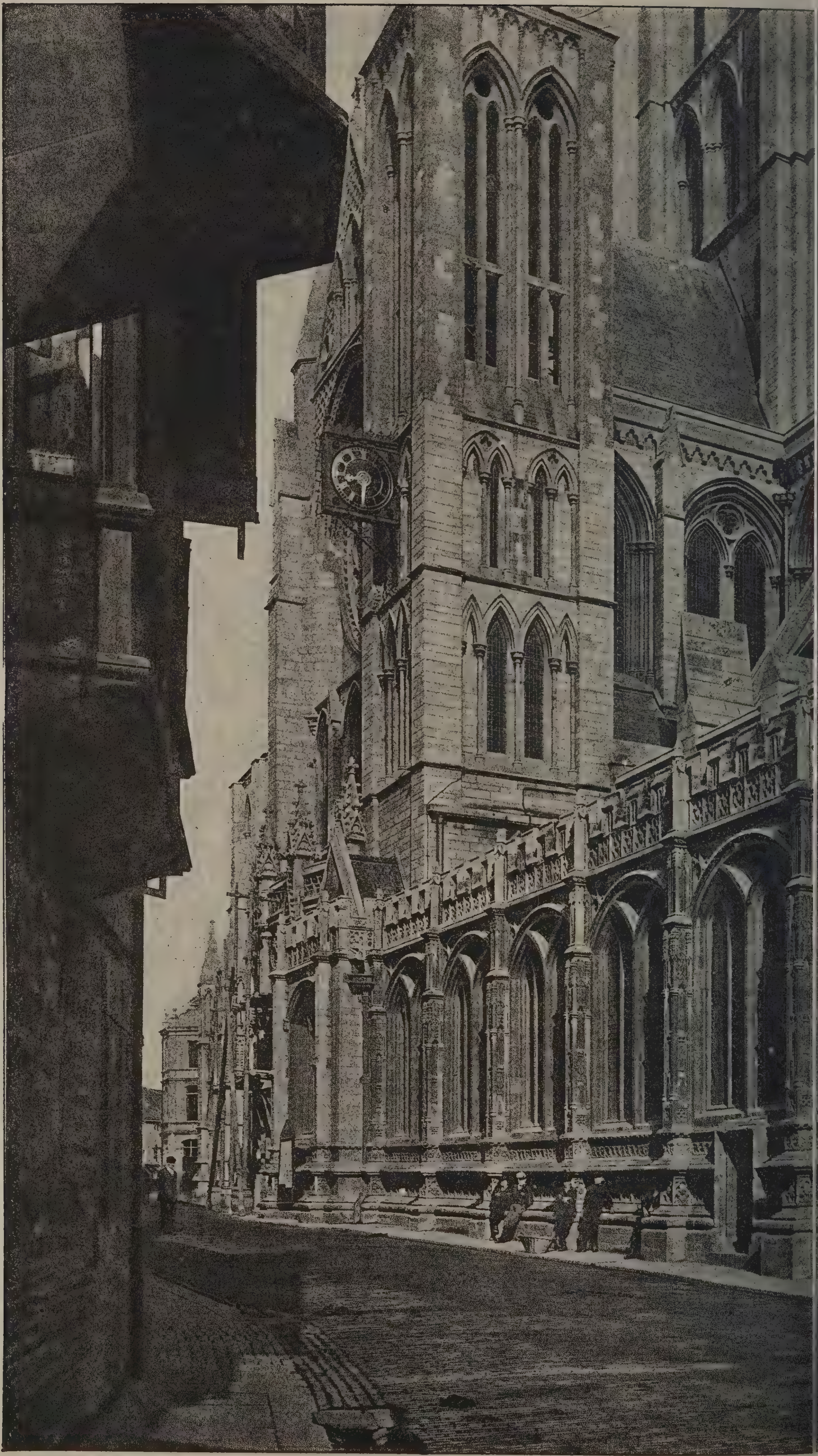
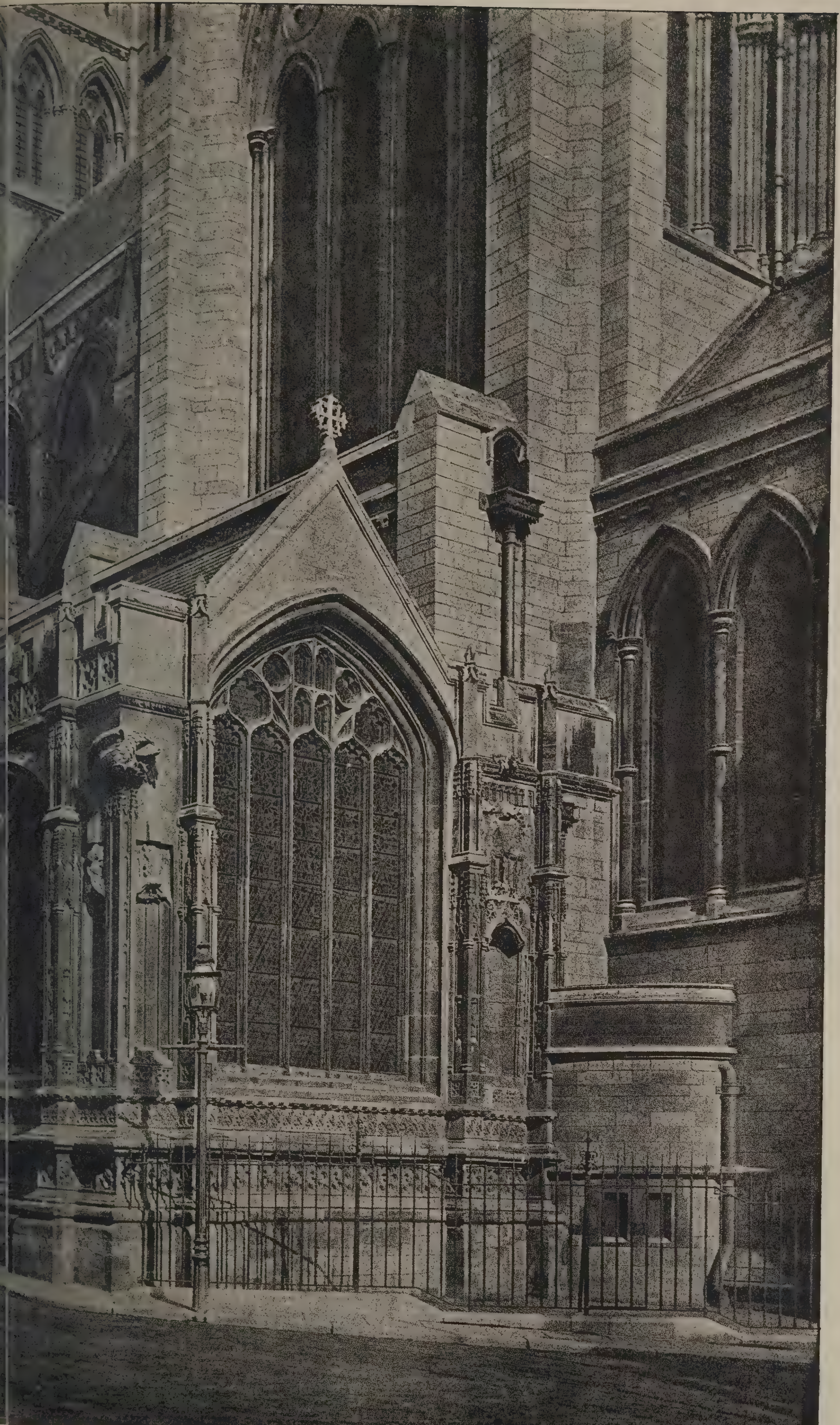


CATHEDRAL SERIES, No. 5

The late J.



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Truro: South Choir Aisle.

R.A., Architect.

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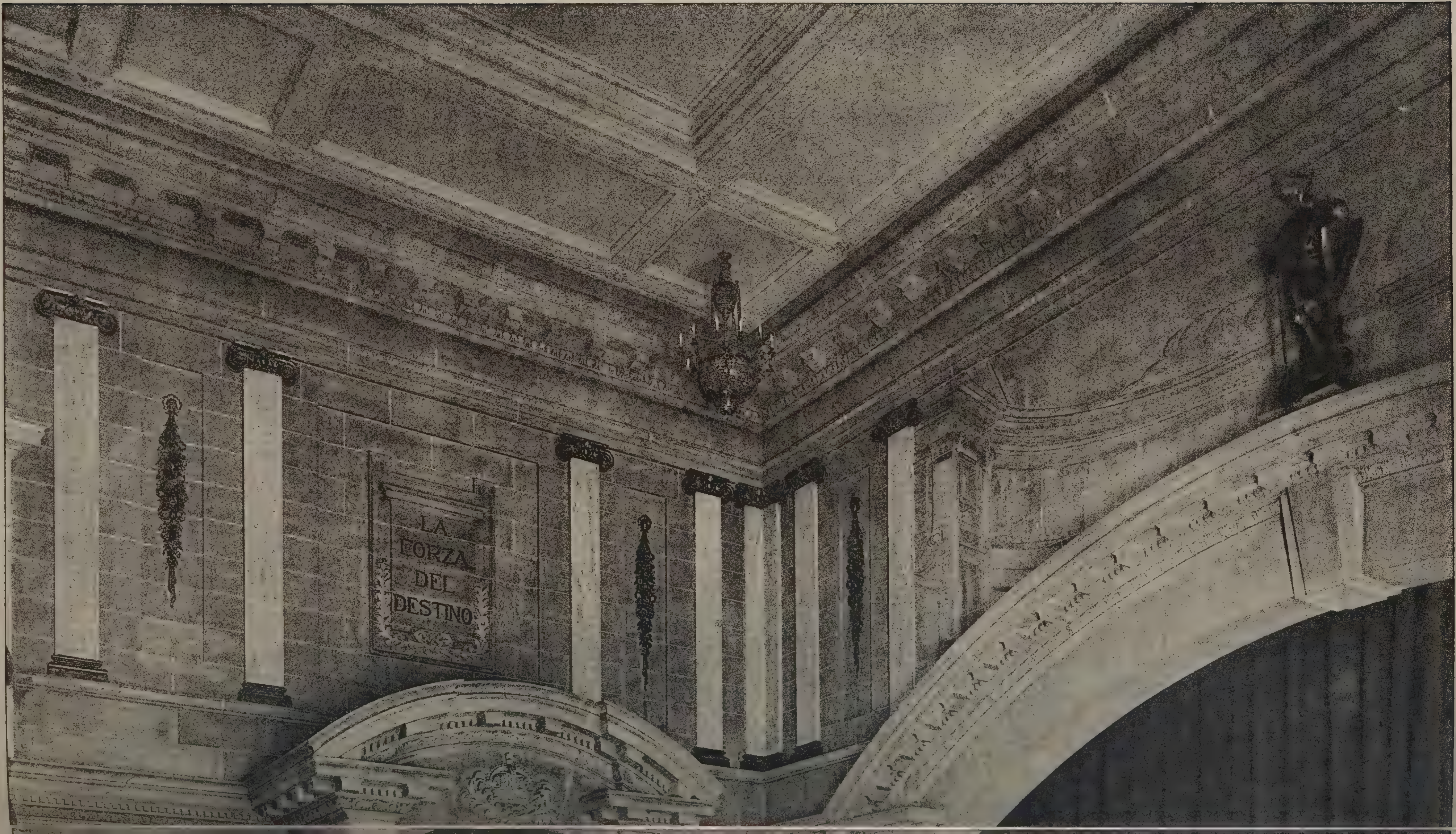
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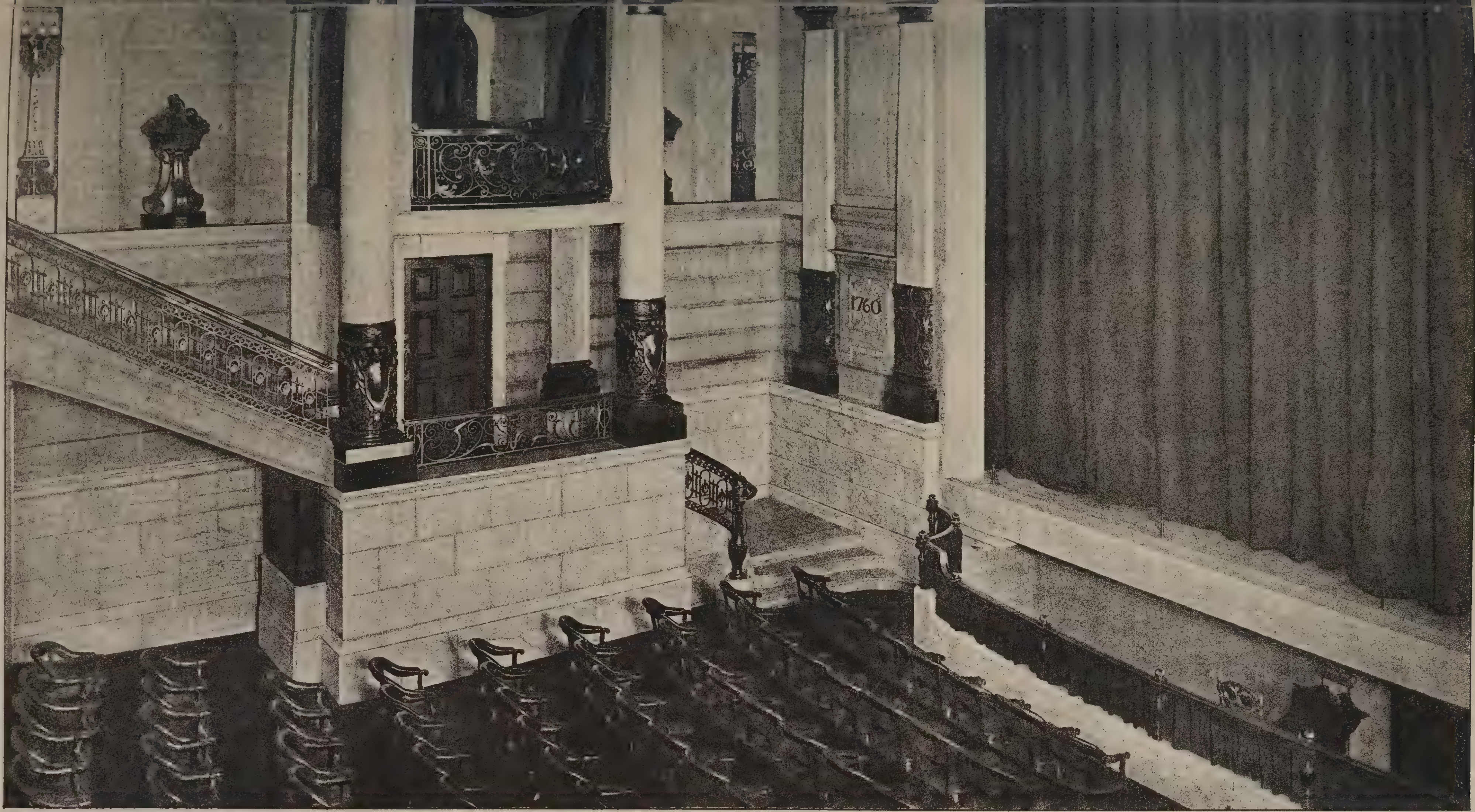

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SCALA THEATRE, FROM DRESS CIRCLE

FRANK T. VERITY. F.R.I.B.A., Architect.

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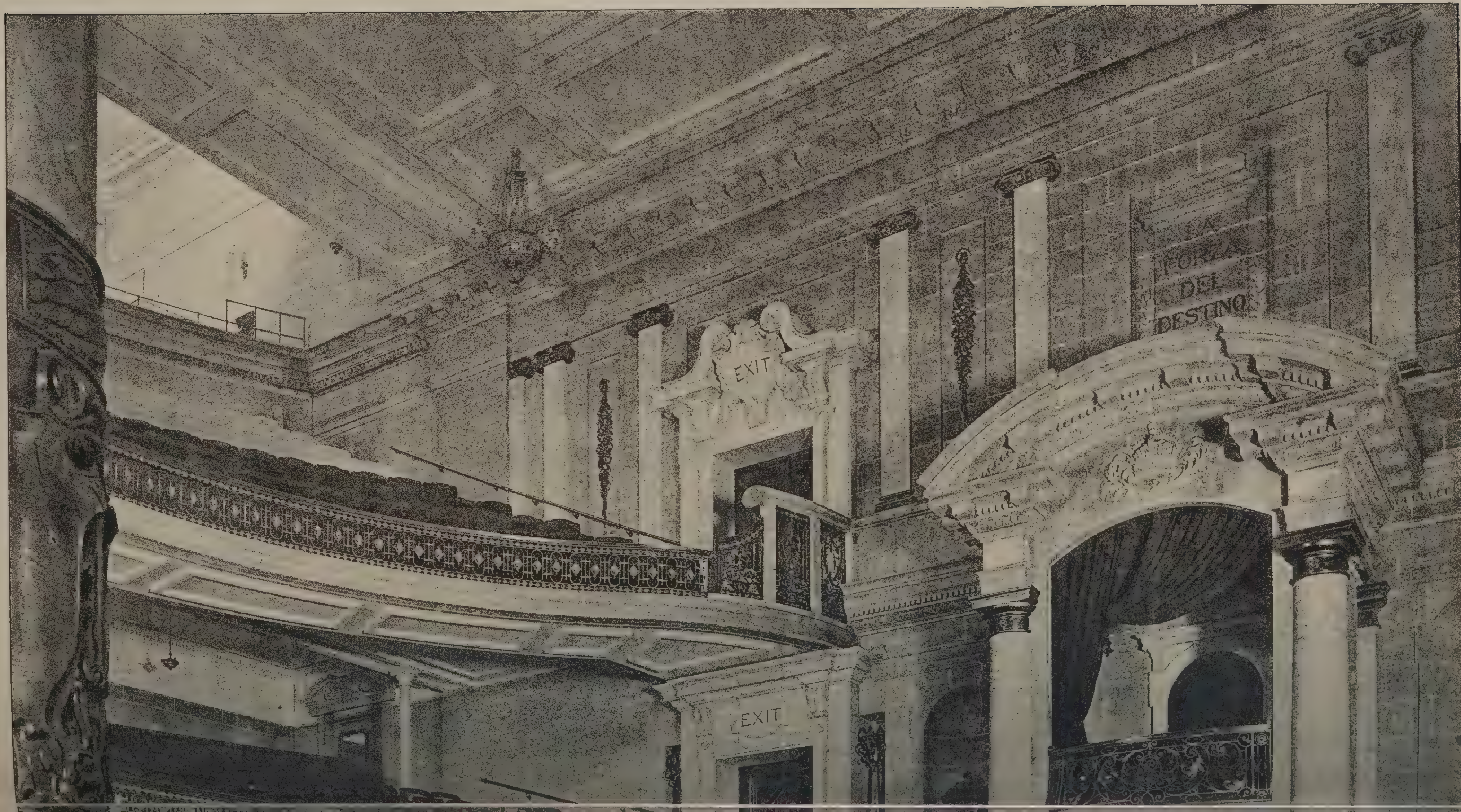
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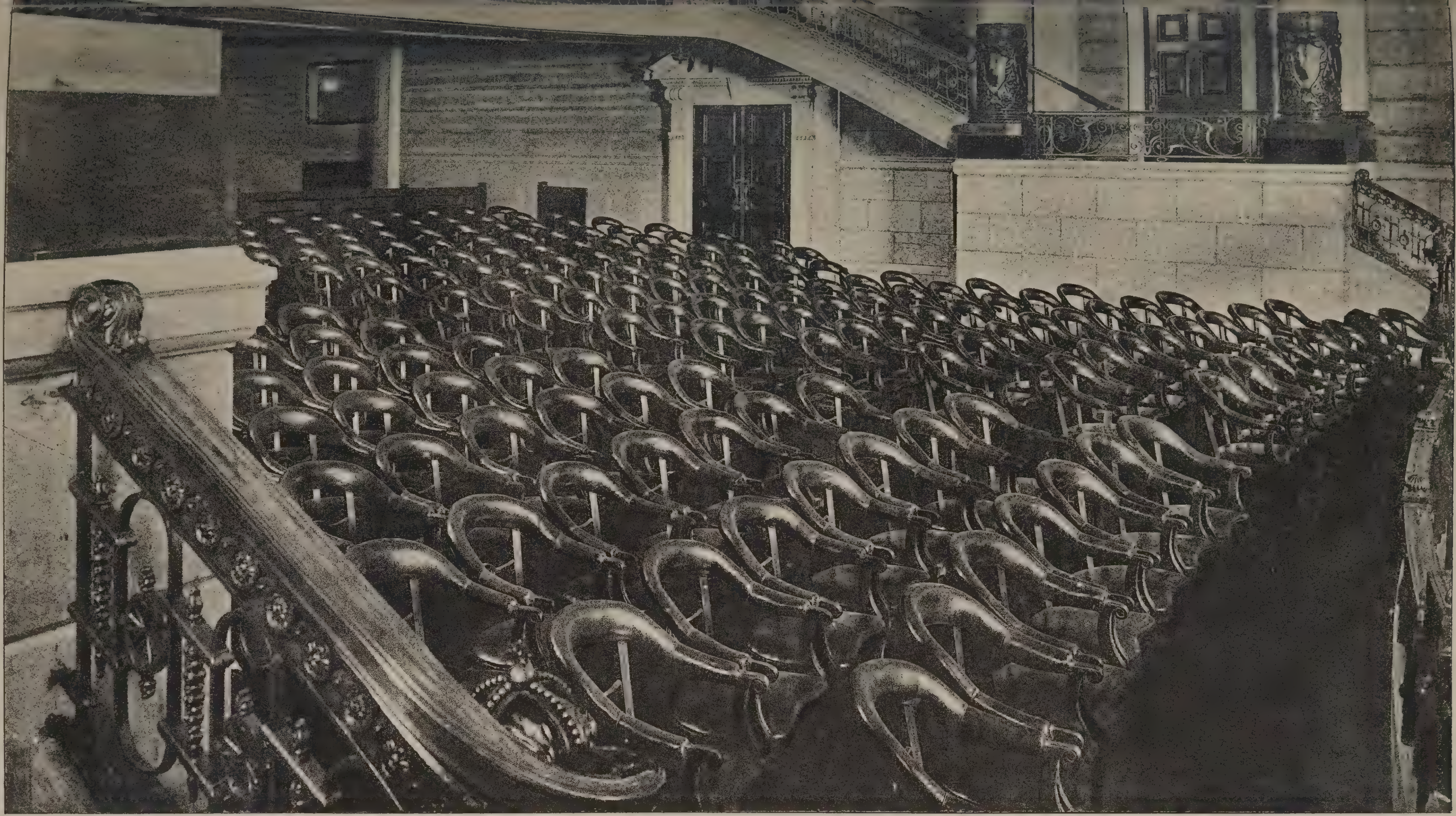

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SCALA THEATRE, FROM THE STALLS.

FRANK T. VERITY. F.R.I.B.A., Architect.

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The Architect.

THE WEEK.

THE Portsmouth Town Council recently accepted the tender of R. H. B. NEAL, LTD., for the construction of sewage tanks at Eastney, the amount being 56,678*l.* The tender which came next was about 2,000*l.* higher. It was afterwards discovered that in pricing out the details one figure was omitted in a page. But that figure represented 1,000*l.* The contractors lost no time in informing the town clerk. He obtained the opinion of Mr. ELDON BANKES, K.C., on the subject, who informed him that the Council was liable for the amount. Some correspondence followed, and as a result Mr. BANKES came to the conclusion that Messrs. NEAL were entitled to the sum claimed and could recover it by an action. The amount has, however, been reduced to 900*l.* 15*s.* 5*d.*, and on Tuesday the drainage committee recommended that the contractors' claim should be settled by payment, and also the costs that had been incurred. This is not the first time in which the Town Council have had to pay for a similar claim, as 1,000*l.* became due through a contractor's error in the contract for the technical institute. In that case the advice of two counsel were sought. We think credit is due to the Council for so promptly deciding upon the claim. Cases have occurred where by refusing to recognise contractors' errors of arithmetic serious loss has been incurred. The Eastney contract was not one for a lump sum. But as it was based upon detailed quantities of an abundant kind, there was a possibility of overlooking items or of slips in addition. The Portsmouth Town Council have therefore set a good example of equitable conduct. In order to avoid claims for mistakes the town clerk is said to be preparing a draft contract which will remove liability from the Council. One of the members proposed "That in all future conditions of contract a clause be inserted therein indemnifying the Portsmouth Corporation from any claim arising from any error made by the contractors in estimating for work tendered for." The remedy suggested by another councillor was:—"That in all future contracts priced bills of quantities of the accepted contractor be prepared and checked, that a copy be retained by the town clerk before the contract is signed and the seal of the Corporation affixed."

AMONG the miscellaneous objects acquired by Lord ELGIN, in addition to the sculpture of the Parthenon, were two fragments from the Treasury at Mycenæ, which some archæologists believed to be the tomb of AGAMEMNON. One is a dull green stone, the other is a deep red or maroon. They were regarded as fragments of friezes. But it is now considered they were parts of the shafts of columns. Both are ornamented with scrollwork. Some time ago we mentioned that other fragments of an allied kind were discovered in Westport House, co. Mayo, belonging to the Marquis of SLIGO. He has generously presented them to the British Museum. It is now believed that when copies are obtained from one or two continental museums it will be possible to set up two almost complete columns which once flanked the entrance to the Treasury of ATREUS. Restorations of the doorway have been prepared by French archæologists, and representations of one will be found in MM. PERROT and CHIPIEZ's volume. The columns were 21 feet in height, and the thickness at one end is 9 inches and at the other 8 inches. But it is supposed that later practice was reversed and that the thicker part of the column was above instead of below. If the intentions are carried out the Archaic Room will have a new interest for architects.

FROM a decision given in the Acocks Green police court a few days ago it is evident that contractors must recognise not only trade rules in general, but local adaptations of them. As our lists of tenders demonstrate every week, distance is now no obstacle to the undertaking of a contract, and therefore one of the first duties of a contractor should be to make himself acquainted with the rules and regulations which local trade societies have established. A bricklayer who was employed by Messrs. HENRY LOVATT, LTD., on the erection of a new railway station, was dismissed by the foreman at an hour's notice. It was a rule of the Birmingham Operative Bricklayers' Society that an hour's notice, whatever time of the day it might be given, should be deemed to have been given an hour prior to the finish of the day's work, the object being that a workman should always be sure of a full day's wages. The claimant was paid for working until two o'clock. But he considered that he should have been paid up to five o'clock, and the claim was therefore for 2*s.* 4½*d.*, being three hours' wages at 9½*d.* an hour. The foreman was a stranger, and not aware of the Birmingham rules. And as he accepted an hour's notice from workmen, he thought he could dismiss them on the same terms. It was stated that the rules had been approved by representatives of the builders and the workmen. But counsel for the contractors said his clients were not bound by them in any way, and no contract had been made to accept them. The magistrate's decision was in favour of the claimant, and the case therefore serves as a warning to other contractors.

THE reports which Dr. THRESH, the medical officer for Essex, prepares are always worth attention, for he is never afraid to express the conclusions he has derived from skilled observation. In advocating the building of cottages by the Chelmsford Rural District Council he says:—"If I were asked whether I would rather see 1,000*l.* per annum spent in maintaining an isolation hospital or in providing 200 cottages for labourers, a few of which could be retained for hospital purposes, I should most emphatically recommend the provision of the cottages, as I now believe that we could far better cope with infection in this way than by means of hospitals. I shall have to point out later that hospitals have but little effect in preventing the spread of infection. The third bedroom in the cottages would very often suffice for isolation, and the patient would in many cases be better there than herded with a large number of other cases in the ward of a hospital." Hospital physicians are not likely to approve of Dr. THRESH's theory, but his words should be considered by landed proprietors, for defective cottages are agents in the fostering and spreading of disease.

A CURIOUS case for the recovery of fees was heard last week in Dublin. Mr. HIGGINBOTHAM, an architect, claimed 131*l.* from Mr. BOYD as payment for professional services rendered. From the evidence it appeared that the plaintiff, the defendant and another gentleman in 1902 entered into a partnership for the purpose of leasing land at a place called Sutton, a few miles from Dublin. The lease was taken out by Mr. BOYD, as trustee for the partners, and the arrangement was that Mr. HIGGINBOTHAM was to capitalise a building fund by bringing in 100*l.*, and sinking in the partnership his fees as architect. It was remarkable, however, that no money was expended by any of the parties. The defendant entered into private speculations outside the partnership, and such profits as he made he kept to himself. Mr. HIGGINBOTHAM did certain work for Mr. BOYD, and he sought to make him personally liable for his fees, as separate and independent lessee, and as employing him. For the defendant it was maintained that he never asked the plaintiff to do any work or expend any money, save in accordance with the terms of the partnership agreement, and on behalf of the partners. The partnership had never been dissolved nor had the accounts been settled between the partners. The jury came to the conclusion that plaintiff was entitled to 31*l.* 12*s.* 6*d.*

JOHN EVELYN.

On Tuesday next two centuries will have elapsed since John Evelyn departed this life in his eighty-sixth year. Already articles have appeared in various journals concerning him. He deserves to be remembered as a patriotic Englishman and as a model of a good citizen. But he also is worthy of recognition as an amateur who was not content with the collection of ancient examples of art. Horace Walpole includes him among the artists, for, as he said:—"If Mr. Evelyn had not been an artist himself, as I think I can prove, I should yet have found it difficult to deny myself the pleasure of allotting him a place among the arts he loved, promoted, patronised; and it would be but justice to inscribe his name with due panegyric in these records, as I have once or twice taken the liberty to criticise him, and it may be remarked that the worst I have said of him is, that he knew more than he always communicated." Evelyn's life was said to be a course of inquiry, study, curiosity, instruction and benevolence. Among the services which he rendered, according to Walpole, were obtaining the Arundelian marbles for the University of Oxford and the Arundelian Library for the Royal Society. Walpole believes that he etched five plates of subjects he saw in journeying between Rome and Naples. He also wrote a book on the engraver's art.

His services to architecture were much more important. At a time when precedents were needed he translated from the French Fréart's "Parallel of Architecture, both Ancient and Modern," a book in which examples of the orders in Roman buildings are compared with later examples by Italians and Frenchmen of the Renaissance period. Evelyn supplemented the translation by a glossary. The work was useful as supplying genuine examples of columns to the builders of 1664. At a later time Addison had the courage to notice the translation in the *Spectator*, and in that way an interest in architecture must have been created among the fine ladies and gentlemen of the Queen Anne period. Evelyn was a far greater man than he appears from his books. He was recognised as an authority by the Court and high officials. And his influence, as we shall see, was exercised on behalf of architecture especially.

By birth he was an English gentleman belonging to a family that had settled in Surrey. His grandfather in 1587 obtained a patent for making saltpetre, and carried on the manufacture of gunpowder at Long Ditton and at Godstone. John Evelyn was born at Wotton in 1620. He is said to have received his first education in a school which was held in a room over the porch of the parish church. Afterwards he was sent to a free school at Southover, Lewes. He went to college, and subsequently was entered as a law student in the Middle Temple. England at the time was becoming a sea of troubles. He was present on Tower Hill and witnessed the stroke which severed the wisest head in England from the shoulders of the Earl of Strafford. That was in May 1641. In the following month he had his portrait painted in oils as a present to his sister, for he had resolved, as he said, "to absent myself from this ill face of things at home, which gave umbrage to wiser than myselfe, that the medaill was reversing, and our calamities were but yet in their infancy." He first went to Holland, and at The Hague visited the Queen of Bohemia, the daughter of James I., with whose sufferings, which were the result of an unfortunate ambition, many English gentlemen sympathised. At Rotterdam he was present at the fair at which paintings were sold, and he could not resist buying some. He remained abroad until October. In the following May he obtained from Charles I. a license to travel again. It seemed to be unworthy of a young Cavalier to leave Charles at a time when he was in straits. But Evelyn may have served the royal cause while abroad. He was everywhere received as if he were an official of some importance. After the fall of the Monarchy he lived in France and Italy. His time was occupied in visiting buildings and collections of paintings. He acquired a knowledge which in extent was beyond that of the ordinary amateur. On February 6, 1652, he landed at Dover. A month afterwards he witnessed the "magnificent funeral of the arch-rebel Ireton." He resolved to live quietly on his estate at Deptford. He was encouraged, he says, by the exiled Charles II. to do so, and he adds the significant remark:—"I had also addresses and cyfers to correspond with His Majesty and Ministers abroad, upon all which inducements I was persuaded to settle henceforth in England, having now run about the world, most part out of my owne country, neere 10 yeares." Evelyn as a royal agent is a subject which has not yet received sufficient attention.

He was disposed naturally to magnify any inconvenience he might have to endure under the Commonwealth. But it must be allowed that he enjoyed the fullest liberty. He purchased Sayes Court, in Kent, where he was afterwards to have Peter the Great as a tenant. He was constantly travelling about the country, apparently for the purpose of studying architecture and examining buildings and gardens. It is not improbable his real object was to uphold the royal cause. In his Diary he records his impressions. During his visit to Oxford he saw the strange things which Dr. Wilkins of Wadham College had devised; among others a hollow statue which, by the aid of a concealed pipe carried up to its mouth, uttered words. He tells us that Wilkins had "in his lodgings and gallery variety of shadows, dyals, perspectives and many other artificial, mathematical and magical curiosities, a way-wiser, a thermometer, a monstrous magnet, conic and other sections, a ballance on a demi-circle, most of them of his owne and that prodigious young scholar, Mr. Christopher Wren, who presented me with a piece of white marble which he had stain'd with a lively red very deepe, as beautiful as if it had been natural." He also visited Stonehenge, where he counted ninety-five large stones. He tried to break off a fragment with a hammer, but owing to its strength he failed. Although apparently only a lover of architecture as an amateur, Evelyn's practicality could not be altogether concealed. At the end of 1658 he tells us he was summoned to London by the Commissioners of New Buildings and afterwards by the Commissioners of Sewers. But he declined to take an oath of fidelity to a government that was without a king, and he was excused. Soon afterwards he was again summoned to London by "the Commissioners for new foundations to be erected within a distance of London."

In 1660 Charles II. was restored, and from the time of the proclamation Evelyn assumed a position which could only have been gained by rendering important services. It was desired that he should be among those who went to Breda to invite the king, but he was too ill to make the voyage, and received a gracious message of sympathy from His Majesty. Charles greeted him on landing as if he were an old friend, and he seems to have had much to do with the distribution of offices. He was not neglectful of art or science. Prince Rupert, with his own hands, he tells us, explained the process of mezzotint, of which Evelyn published a description in his "History of Chalcography":—"This set so many artistes on worke, that they soone ariv'd to that perfection it is since come, emulating the tenderest miniatures." There was a race on the Thames from Greenwich to Gravesend and back between a yacht which the Dutch East India Company had presented to Charles and another belonging to the Duke of York, the wager being 100*l*. Four noblemen and Evelyn accompanied the king. Evelyn had just published his "Fumifugium." While sailing the king, we are told, "was pleas'd to discourse to me about my book inveighing against the nuisance of the smoke of London, and proposing expedients how by removing those particulars

I mentioned, it might be reform'd; commanding me to prepare a Bill against the next Session of Parliament, being as he said resolv'd to have something don in it." The queen's attorney prepared a draft of the Bill in which it was proposed to remove the various trades which caused the smoke and endangered the health of the king and his people. Nearly two centuries and a half have elapsed since that promise was made. But the smoke nuisance may still be said to defy all attacks upon it.

In May 1662 EVELYN was appointed one of the Commissioners for reforming the buildings and streets of the City of London. His first duty was to examine St. Martin's Lane, although not in the City, in order to discover if it could not be made more passable into the Strand. Another reform was the paving of the way from St. James's North, which was then a quagmire, and the Haymarket about Piqudillo (Piccadilly).

Works of that kind were soon, however, to be disregarded in comparison with the great undertakings which were caused by accident. WREN was appointed to be one of the three surveyors for the repair of Old St. Paul's, or, if necessary, the erection of a new building. On their first examination they found the wall of the building receding outwards. "Mr. PRAT" said it had been so built originally for perspective effect with regard to height. But EVELYN and WREN were of a different opinion. And the two suggested that a noble cupola, a form of church building unknown in England, but of wonderful grace, should supersede the ancient and lofty steeple. Within a week of the consultation the Great Fire broke out. After recording his impressions of what he saw EVELYN exclaims:—"GOD grant mine eyes may never behold the like, who now saw above 10,000 houses all in one flame; the noise and cracking and thunder of the impetuous flames, the shrieking of women and children, the hurry of people, the fall of towers, houses and churches, was like an hideous storme, and the aire all about so hot and inflam'd that at the last one was not able to approach it, so that they were forc'd to stand still and let the flames burn on, which they did for neere two miles in length and one in bredth. The clouds also of smoke were dismall and reach'd upon computation neer 56 miles in length." EVELYN prepared a survey of the ruins and a plan for a new city within a couple of days after the fire. It was examined by the king, the queen and the Duke of YORK, and they appeared to be pleased with his suggestions. But it was not EVELYN'S plan which was accepted but a rival one by CHRISTOPHER WREN, and the latter was only partially carried out. Among EVELYN'S suggestions was the employment of the rubbish to form an embankment alongside the Thames. He must have been disappointed, but we have no expression of opinion from EVELYN on the subject. He says very little concerning the erection of St. Paul's. But he notes that WREN faithfully promised him to employ GRINLING GIBBONS. The sculptor was discovered by mere accident in a poor, solitary thatched house near Sayes Court. EVELYN found him carving a crucifix after TINTORET. GIBBONS was introduced to the king, and it was expected that the queen would have bought the crucifix. But an ignorant French woman who was present found so many faults in it, the equally ignorant queen became afraid to exhibit a want of taste, and the work was returned. CHARLES also consulted EVELYN about the building of a palace at Whitehall, as if designs had not been prepared by INIGO JONES. But, like many more of CHARLES'S projects, no builders were employed on it.

From the glimpses which we can obtain by means of the Diary it is evident that use was made of EVELYN on a great many occasions. Although it was an age when Sir JOHN DENHAM, a poet, had charge of the public works, we are unable to discover that EVELYN was appointed to an office from which there were substantial emoluments to be derived. He was most loyal to the king, and hated the Commonwealth and all governments which were carried on without an anointed head, but it is not unlikely that the flippant courtiers who surrounded CHARLES represented EVELYN as at heart a Puritan and a censor. A man of that kind would not be acceptable to CHARLES II., although he might be used whenever occasion demanded. EVELYN lived through the reigns of JAMES II. and WILLIAM III. ANNE was queen when he resigned his office of treasurer of Greenwich Hospital to his son-in-law. He witnessed the celebration of the Battle of Blenheim, and MARLBOROUGH a little later spoke to him with extraordinary familiarity and civility. After he had passed his eighty-fifth year he made up his accounts with his usual regularity, and until the end acted as became a man who had throughout his long life endeavoured to discharge his duty faithfully.

EVELYN was a type of those remarkable seventeenth-century scholars who might be said to have accumulated knowledge by a scientific process. His manner of study has been recorded. First having chosen his subject he divided it into various parts, each of which was to be taken up when opportunity offered. Under each he set down his own thoughts as they occurred, or those of other writers which he had met with. Then lawyer-like he looked up precedents relating to the subject. When sufficient information was supposed to be acquired he began abbreviation, and hence it was that the volumes which he published seemed to be no more than the quintessence of his commonplace books. This manner of proceeding justifies what WALPOLE said about EVELYN'S knowing more than he communicated.

THE CASTLE OF SAINT ANGELO.

THE adaptation of the Mole of Hadrian, which in later times was known as the Castle of Saint Angelo in Rome, into a museum which will be representative of both civil and military engineering, illustrates in a remarkable way the vicissitudes to which ancient buildings appear to be liable. The building has been a mausoleum, a fortification, a Papal retreat, a prison. Its new purpose will not be foreign to its history, for it will exemplify models and representations of Italian warfare. It will also convey the lesson that science can have its victories as well as war.

The Emperor HADRIAN, who was, it is believed, the creator, was born in Rome in A.D. 76. Being a cousin of TRAJAN he was at an early age entrusted with military commands. Endowed with physical vigour he was indifferent to the atmospheric conditions of the vast Empire, and could endure the cold of Scotland and the heat of Egypt without the least inconvenience. He is supposed to have visited every province ruled by Rome. The chronology of his voyages is suggested by the medals which were struck on his arrival, and which prove his presence in Campania, Gaul, Germany, &c. The Wall of Hadrian, which extended from the Solway to the Tyne, is a memorial of his residence among us, for although there are disputes about his claim to have constructed over seventy continuous miles of fortification, there is little doubt that the greater part can be credited to him. Although less ostentatious than many other emperors, he took care to have a technical corps attached to him in his journeys. Indeed, he gave so much attention to the art of building that his reputation has suffered because he anticipated DISRAELI, and if he did not "hang an architect" as a matter of policy it is believed he had one executed in another way. HADRIAN had decided to erect a great temple in honour of Venus and Rome. The plans, of which the emperor approved, were sent to APOLLODORUS, the Greek architect. He remarked that the building appeared small if compared with the size of the statues to be placed therein, and it was impossible for them to stand upright or to walk out. So frank a criticism on the emperor's judgment was rewarded by exile and death.

The accounts of the architectural and engineering works of Hadrian now seem to be incredible on account of their number. A district of Athens became known as Hadrianopolis, in recognition of the great undertakings he had carried out in the city. He created a new Jerusalem on the ruins of the old. In Italy and Rome he surpassed all his predecessors in promoting public works. It is to Hadrian that the world is also indebted for a type of sculpture which, if novel, cannot be admired without hesitation. We refer to the beautiful, if unhealthy, representations of his favourite Antinous, in which the Hellenic type is abandoned. The face does not correspond with the Greek ideal. It is of a coarser nature. But the emperor was fascinated with the beauty, such as it was, and the young Bithynian became his companion, if not his councillor. Those who sought the favour of the confidant made out that Apollo was inspiring him, and for a time after his death he was honoured as a prophet. There is a legend that he killed himself, and all the resemblances suggest a despairing mind. Hadrian made him an object of religious worship, and strange to say it continued for some centuries, for there are many protests of the Christian fathers against the demoralisation of such a cult. Amidst the ruins of the emperor's villa many statues of Antinous were found. And it is believed there are about thirty in continental museums. To Winckelmann some of them were the glory and the crown of sculpture. The large head known as the Mandragone he considers as the third noblest example of ancient art.

It is not known when the Mole of Hadrian was commenced. The earliest reference to it merely states that the emperor constructed a sepulchre in Rome near the Tiber. The body of the emperor, it would appear, was first buried in a tomb close to the villa of Cicero, in Puteoli. Afterwards it was transported to Rome and placed in the gardens of Domitia, Nero's aunt. Finally it was interred in his mausoleum. The meaning of this probably is that the structure was not finished when Hadrian died, and temporary resting-places had to be employed until the Mole was completed by his successor, Antoninus Pius. Afterwards the ashes of the Antonines were deposited there.

The earliest account of the structure is given by Procopius, a man who, from being professor of rhetoric in Byzantium, became one of the greatest statesmen of his time, and was one of Justinian's ministers. As secretary to Belisarius, the general, he took part in the wars of the Goths against Rome, and he has written an invaluable account of the events he witnessed. In describing one of the attacks on the Aurelian Gate, Procopius says:—"The tomb of the Emperor Hadrian is situated outside the Aurelian Gate, about a stone's cast distant from the bulwarks of the city. It is an object worthy of our consideration. It is built of Parian marble, and the blocks fit close to one another without anything between to bind them. It has four equal sides about a stone's throw in length; its altitude rises above the city walls; on the top are statues of the same kind of marble, admirable figures of men and horses. The men of old time (because it appeared advantageous for the defence of the city) joined it with the bulwarks by two walls, thus making it a part of the fortifications, so that it had the appearance of a lofty tower covering the gate."

The Mole in the sixth century must have differed in its external appearance from the Papal castle of later years. It evidently was square on plan and not circular. No doubt many alterations have since been made. Procopius subsequently records that the beautiful marble statues were torn from their pedestals and were hurled against the Goths. The "Barberini Faun" is supposed to have been one of those missiles. It was long believed that the columns were used in the basilica of St. Paul's without the Walls. Although they might not appear out of place in marking the storeys of an interior, they would be too small to serve as piers on the exterior of so massive a structure. Unfortunately the columns are not discoverable, and we can only speculate about their dimensions. In the thirteenth century a writer in describing the Mole said it was faced with marble, and there were figures of gilded peacocks, a bull and horses, besides bronze doors. According to another ancient writer, the structure was surmounted by a figure of Hadrian, who stood on a triumphal car drawn by four horses. There is no doubt the latter writer, who came from Antioch, must have written from imagination. He says that the eyes of the horses were so large a full-grown man could pass through one of them. In the fifteenth century the Mole was represented on a bronze door for St. Peter's, by Antonio Pollajuoli. In a drawing made by Camucci in the sixteenth century a part of the cornice was indicated which was adorned with ox-heads and festoons, elements of decoration which were familiar to Roman sculptors.

From the description given by Procopius we may assume that the Mole was in his time recognised as a fortress. With a succession of enemies who were fierce barbarians the Romans were not likely to think only of the preservation of the shrine of a tomb containing the dust of a family of their emperors. It is remarkable that before the sixth century closed a chapel was erected on the top of the fortress by Pope Gregory, who by force of character and eloquence had subdued the barbarians to some extent and was allowed to interfere with the arrangements of the building. It is said that while he was praying in a procession for the extinction of a plague he saw the figure of St. Michael above the Mole of Hadrian sheathing his sword, and the chapel was the memorial of the event. It does not appear that the name Saint Angelo was given to it at that time. The building, in fact, bore a variety of names according to the respective owners. In the tenth century it was called the "Castello di Crescenzio," and in the eleventh century the house of Theodoric. Dante appears to have seen it in the Jubilee year, 1300, when crowds passed over Hadrian's bridge in front of it on their way to St. Peter's.

The building passed through many vicissitudes, and it did not become a Papal possession until the twelfth century. After about thirty years it was seized by a consul, and from time to time it was handed over to the Pope and then retaken by some of the rebellious chiefs. Rienzi may be said to have commenced his revolution with a procession from Saint Angelo to the Capitol. After a defeat he retired to the building, and he might have remained in it with safety if he had not escaped to seek foreign aid. In the fourteenth century the French Cardinals somehow claimed it as an appanage. In the course of the changes of ownership the building decayed because nobody could anticipate how long it would be in their keeping. Alexander VI. in the sixteenth century expended a large sum upon it, especially in the construction of a gallery between the castle and the Vatican. Under Clement VII. the castle was besieged. German troops had made their way to Rome, and their leader was resolved to hang the Pope, who took refuge in the fortress, considering it to be the safest dwelling in Rome. Charles de Bourbon was also the enemy of Clement and endeavoured to seize him. It was in one of the attacks on the castle that Benvenuto Cellini, who was among the defenders, said he took a deliberate aim with his arquebuse at a person who seemed to be above the rest of the besiegers, and afterwards was surprised to find he had slain the Constable. In revenge Rome was made to suffer as terribly as in any of the wars of the barbarians. The Bourbon attack was taken as a lesson by subsequent Popes. Urban VIII. in the seventeenth century constructed great outworks, and removed the bronze which lined the dome of the Pantheon in order to cast cannon to defend them. Bernini, the sculptor, was his architect and military engineer.

Byron accepted a belief which was common that Hadrian in his construction was endeavouring to rival the Pyramids:—

> Turn to the Mole which Hadrian rear'd on high,
> Imperial mimic of old Egypt's piles,
> Colossal copyist of deformity,
> Whose travell'd phantasy from the far Nile's
> Enormous model, doom'd the artist's toils
> To build for giants, and for his vain earth,
> His shrunken ashes, raise this dome! How smiles
> The gazer's eye with philosophic mirth,
> To view the huge design which sprung from such a
> birth!

If in imagination we remove the parts added to strengthen the structure, we cannot accept the belief that there was anything Egyptian in style about it originally. Augustus may have had some such intention as is ascribed to Hadrian, for, although his mausoleum was no more than 220 feet in diameter, he contemplated that both within and without the remains of his adherents should find a place. Hadrian, on the contrary, was only desirous that members of the Antonine family could claim the right of burial in his tomb. The idea may have been derived from Egypt of having two remote sepulchral chambers which were approached by spiral passages. The Mole did not display any extraordinary ambition in the emperor, and whoever served as the designer did not adopt any novelty in architecture. A circular tower standing on a square basement, and it may be having a dome for a roof, surmounted by the bronze pineapple now in the Vatican garden, was not remarkable. What was inexplicable was the immense strength of the walls which were to serve for the sepulchral chambers in the basement, with their "two handfuls of white dust." It is remarkable that the coins only show Hadrian's funeral pile and not the mausoleum.

The Castle of Saint Angelo has served as a prison. It is therefore no degradation to convert it into a museum. Italy was the first country in which fortification by bastions was employed, and there is no doubt that provision for defence had an effect upon the domestic architecture. An extreme instance is the Caprarola Villa. Drawings and models of fortifications which will be found in the new museum will make it unique. The castle itself will also, when seen under new conditions, be an attraction and will be suggestive of human progress.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W., Mr. Leonard Stokes, vice-president, in the chair.

Mr. E. Guy Dawber read a paper, illustrated by lantern views, entitled

Furniture.

Tracing the development of furniture in England, the author said that nearly all the examples shown in MS. illustrations down to the middle of the sixteenth century were of an ecclesiastical character. Throughout each successive period the style of the furniture had followed that of the architecture, and if any special piece was required, the same craftsman who built the church, monastery or castle, made it, or at any rate had such control that in character and detail it assimilated with the building. Household furniture in the sixteenth and seventeenth centuries was characterised by simplicity and stability of construction, and, as much of it had to be shifted from one castle to another when any great personage moved, its supply was necessarily limited, and the rooms were consequently sparingly furnished. The influx of foreign workmen from Italy and the Netherlands had hindered the development of a distinctive and national taste, and up to the close of the sixteenth century there was hardly a definite and decided tradition. After the design of furniture began to break through its ecclesiastical environment, when the Renaissance in Italy had developed in England, then we find a real national style gradually being evolved. Perhaps the most constructively perfect period of English furniture was the end of the sixteenth and first half of the seventeenth centuries, and though its design was based almost entirely on classical influences and detail, and the outlines may suggest extraneous origin, it retained a character essentially English, and soon lost any trace of foreign influence. The workmanship was of the best, the construction admirable and framed in a manner calculated to withstand the roughest usage. During the reign of Charles I., and for many years previous, velvets, brocades, satins and stuffs had been imported from Venice and abroad, and much furniture from Italy as well as the Netherlands. The Restoration in 1660 caused a further influx of furniture and workmen from Holland, Flanders, Spain and France, and to this we owe a great deal of the mixed character and diversity of style so prevalent in the latter half of the seventeenth century.

Marquetry was one of the distinguishing characteristics of late Dutch seventeenth-century furniture, and when treated in a quiet and simple manner was very pleasing; but although it became the fashion for some years in this country, and chairs, cabinets, clock cases and indeed all surfaces offered opportunities for the new style of decoration, it never took a firm root, and after a few years died out. Carving, at the beginning of the eighteenth century, was sparingly used, the tendency being towards greater lightness and grace of line in furniture. In the eighteenth century many schools of craftsmen and cabinet-makers based their designs almost exclusively on the models of the leading architects of the day. Sir Christopher Wren had gathered around him a school of designers and carvers whose influence upon furniture-makers was very marked. It was the age of constructive joinery and beautiful carving, and whether in oak or deal one single style and tradition permeated the whole country. The architect was the chief director in all matters of style, proportion and arrangement, and a great deal of the actual furniture was designed by him. It is not too much to claim that the Classic spirit, so predominant throughout the furniture of the eighteenth century, is mainly attributable to the influence of architects. Chippendale's first book was published in 1754. In reading it we cannot held admiring the power he possessed of combining the seeming incongruities of the so-called French, Gothic and Chinese styles which were then so fashionable, and in making out of them pleasing and harmonious pieces of furniture, and imparting to them such symmetry and dignity. We see in his work how all his effect was obtained from outline and carving only, for though inlay, veneer and painting had long been in use, he discarded them altogether and worked in the solid mahogany. But he did not originate a style; he only carried on the existing traditions of the day and clothed them in fresh detail of his own, or borrowed from other sources. Whatever we may think of the general design of Chippendale and his fellow-workers, there is no doubt that these famous cabinet-makers thoroughly appreciated the proper limits within which carving, as applied to furniture, should be confined. Lowness of relief, adaptation to the structural lines, the employment of a maximum of plain surface with a minimum of carving, are all strongly marked characteristics of the work of this period. The author went on to deal with the work and influence of other eminent furniture designers—Shearer, Heppelwhite, the brothers Adam, Sheraton, &c. Two facts, he said, mainly contribute to the charm and interest of the furniture of bygone days: the first, that its form and detail were so admirably adapted to the material it was made of; the second, that it was always so singularly suitable to its environment.

Towards the close of the eighteenth century, though the design of furniture was still influenced by the architectural features and character of the houses it adorned, it began to show that the necessity for the two being absolutely in harmony was not considered essential, for a great school of specialists in furniture making had arisen, and the association between the architect and cabinet-maker was beginning to weaken, until it ceased to exist. About half a century ago, when perhaps domestic architecture in England was at its lowest ebb, things reached such a pass that the fashion in furniture became absolutely regardless of architectural principles or fitness, and only the idea of comfort and luxury prevailed until the inevitable reaction set in, and people, finding they could no longer get new furniture which was not an eyesore, reverted to the opposite extreme, viz. the older styles of former days. Then came the difficulty which still exists—which particular style amongst those of the past to select. All, perhaps, are equally incongruous in modern houses, yet all appeal to people in different ways; and now that in the mind of the general public architecture and furniture have been definitely divorced from one another, it is the fashion to pick up pieces of furniture, quite indiscriminately, because they happen to be beautiful, quaint, or old, and people fill their houses, utterly indifferent to the effect produced. All this brings us back to one thing worth noticing—that throughout the periods when architecture flourished and was a living art, furniture was the same, and very beautiful work was the result; but when there ceased to be any real tradition in architecture, at the same moment furniture died out. The two are inseparable—they always have been and always will be; and just as to-day we have a real living common-sense style of domestic architecture, so also, with its development, will a real style of furniture arise. There is, undoubtedly, a great effort being made at the present time amongst many of our ablest designers and craftsmen to remedy this by producing designs for furniture original and artistic in treatment. There is still, however, too much inclination, in aiming at simplicity of form, to neglect the beauties of form altogether. Because mouldings have been excessively or wrongfully employed, there is a tendency to abjure them altogether, so losing one of the main factors in creating beauty and interest. Of course, to class the whole of the modern furniture produced to-day in such a category would be absurd, for we have designers and craftsmen who, if only given the opportunity, can design and make furniture which can rival the productions of past ages. But until there is some settled standard of thought and tradition permeating the whole country, any efforts at design in furniture must be but isolated and individual. The author said he did not suggest that an architect should design furniture; but he should have in his mind the house he is building, finished and furnished complete, just as a painter has a mental impression of the last state of a picture he may only be beginning to put on canvas. That impression may be modified and improved in detail as the work proceeds, but the general scheme, the broad idea, will remain. For the architect, however, who is more thorough in his work and is not content with constructing the mere shell of his house, there is much scope for excellent effects by planning permanent fitments, such as bookcases, cupboards, sideboard recesses and so on. The reproach that the British is an inartistic nation is being removed. People have either become artistic themselves or have attained to the wisdom of Socrates in admitting that they know nothing and are content to leave the work to those whose business in life it is to show them what is artistically right and in good taste. With the improvement in domestic architecture which is so marked, the author felt sure that it would only be a matter of time before the public realised that good, sensible, modern furniture could be equally well obtained at a reasonable cost; and this result would be greatly helped if architects generally gave more thought and care than they do at present to the finishings and furniture of the houses they design. An architect's training and sense of proportion should enable him to exercise a very helpful power in controlling and directing the taste of the public.

Mr. Percy Macquoid, in moving a vote of thanks to the author, said it was difficult to add anything fresh to the very admirable paper they had just heard. The large subject had been treated in a simple way, and yet the paper had condensed into a small compass the knowledge of all the types that were practically known in English furniture. It was extremely difficult to give, as Mr. Dawber had done, the idea of how one period merged into another, but they had seen by the illustrations that those links were perceptible. It was the study of the different ideas during the periods of transition that taught most about the history of furniture. He would have liked to have seen more examples of the Elizabethan period, but they were not easily obtained. The great cupboard, which comprised nearly every necessity of the family, was only once represented. The authenticity of many existing examples was doubtful, and the speaker said he had proved many of them to be imitations of old work. One of the most beautiful specimens in oak furniture that had been shown to them was the Charterhouse table. It was especially interesting because it showed the very strong influence of French style, and because there was no other specimen in England which represented that particular phase so well. The paper seemed to have overlooked the use of walnut. It had been employed very extensively, and some specimens were made between 1770 and the beginning of the Peninsular War. Its beauty made such an impression at the time upon the people that walnut trees were planted in anticipation of future use. The wood must have been considered rather precious, because no trace could be found of its employment in Elizabethan times. He agreed entirely with what Mr. Dawber had said about Chippendale. He was an able man who did very little that was really original except the refinement and making of lighter furniture in forms that had previously existed. Chippendale made his furniture more practicable and in better keeping with the customs of the people of his own time. Before this date the furniture was clumsy, but Chippendale, who belonged to a far gayer and brighter period, introduced that spirit into his work. Mr. Dawber had shown how delightful the Adam furniture was, and as a completion to houses of the same design Adam achieved the most beautiful effects. The examples of modern furniture were interesting, and if the public would pay as much for such articles as their ancestors did satisfactory work could be produced. There was a tendency to have the wood rather flat and the mouldings also, and altogether there was a sense of affectation of bareness which was not attractive.

Mr. J. D. Crace, who seconded the motion, said he felt interested in saying something about the paper, because it was just forty-nine years ago that his father had given a lecture on the same subject in that room, and he himself had prepared the diagrams which illustrated it. Mr. Dawber touched upon any interesting points which could be elaborated. There were one or two details which might be called to mind. He thought the paper made light of the importance of the aid which old manuscripts offered in the study of furniture. In those old illuminated documents domestic interiors were often represented, and the details gave clues to the customs of the day. Then there were very interesting specimens of furniture scattered about the country in old houses of even pre-Elizabethan times. There was a great amount of interesting furniture at Hardwick Hall. Elizabethan furniture was often extensively inlaid, and in the latter part of the paper mention was made of inlay on the round in the time of the Brothers Adam. Inlay on the round existed at Hardwick in the period of Elizabeth, and was probably introduced there in anticipation of the Queen's visit to the Hall. Knowle House was interesting, containing specimens belonging to the period of the Georges, that had evolved styles of furniture which had been sought out during the last decade. Mr. Dawber went far when he said that design had given out in the middle of the last century. It began to revive before the Great Exhibition, which was the outcome of a desire to make beauty in the articles of domestic life better understood. There was good work from 1850 up to the end of the century. A great deal of the furniture made might not have been high in quality, but the forms used had the right intention, for they showed the proper notion of what design should be. Architects could not do better than take a keen interest in furniture whether they made designs for such articles or not, because furniture must be included in the accessories of the houses they designed.

Mr. Maurice B. Adams said there was one period in the history of furniture which had not been alluded to in the paper and which had always struck him as extremely interesting. He referred to the time when Burges, Street, Eastlake and Blomfield were designing furniture, some of which was valuable and merited recognition. In Burges's house at Kensington, which should be secured as a national monument, and also in his office at Buckingham Street, the furniture carried out the principles of the Gothic revival. The idea which William Morris, Rossetti and Burne-Jones realised was also familiar to Burges, namely, that perfectly plain furniture could be painted and made a work of art. Burges in his house gave beautiful representations of plant life, and carried furniture to a far higher standard than the work they had seen that evening by Chippendale and others. The main object was to produce that which would be beautiful and serviceable, but whether or not it was desirable to paint chairs on which people sat and which were liable to wear was another matter. The speaker thought, however, that a history of furniture which embraced all forms and styles down to the present day would be incomplete if they omitted such work as that which belonged to the period of the Gothic revival.

Mr. Arthur Penty said it appeared to him that in early furniture very little of the work was entirely satisfactory. Though it was vigorous it lacked refinement, and in later work there was refinement but no vigour.

Mr. H. D. Searles Wood and Miss E. Rowe also spoke.

The Chairman, in concluding the proceedings, announced that the special meeting, which was to have been held on February 20, would be postponed owing to the indisposition of the President, and the need for some alteration in the form of resolution that it was proposed to bring forward regarding the purchase of the site between Nos. 11 and 13 Portland Place for the erection of new premises.

THE STUDY OF SCULPTURE.

IN his address at the Royal Academy on Monday Mr. W. R. Colton, A.R.A., said that winning a gold medal had been known to stop an artist's work, and so far as the little honours were concerned the student should pray for failure rather than success. If he spent six months over a statue and it was rejected at the Academy or the Salon he should set to work again, for two years if necessary, and work with enthusiasm. That, said the lecturer (according to the *Morning Post*), brought him to the keynote of his address, for the difficulties of sculpture were so great that without enthusiasm there could be little hope of success. Without enthusiasm the work was drudgery; with it the task was made pleasant that otherwise would be tedious and intolerable. It had been said that sculpture had advanced with leaps and bounds in England during the last thirty years, but whether that was so or not we ought to keep our shoulders to the wheel and study enthusiastically, for we were still many years behind one nation on the Continent, and the race between the nations should not be lost sight of. It was asserted that there was not much demand for ideal sculpture, but probably if more were produced a greater demand would arise. Even now the demand seemed to be increasing for small works—*objets d'art*—the taste for which should lead to a fuller appreciation of the finer forms of sculpture. There was no need for the sculptor to attach importance to supposed classic scales and rules. The race of men who thought too much of these things had disappeared, and their art had almost disappeared too. The rules that should limit us were the rules of nature and her beauties that surround us. To learn the sculptor's language it was necessary to copy nature absolutely, for before we thought of what we had to say we had to learn how to say it with our modelling tools and chisels. At the Academy schools they were not too much bound by rules, for there was no academic system of modelling, and each successive visitor politely put on one side that of his predecessor. Imagination, said Mr. Colton, was very well, but clearness of vision was much more important. Nature was the great guide, but nature had given beauty with almost too lavish a hand, and most of us were blinded with her glory. Especially did this apply to a sculptor, because he could use so little—merely an atom—that had been worked over and over again and still sufficed. A sculptor must be prepared for self-sacrifice in the practice of his art, and Mr. Colton took as examples Harry Bates and Onslow Ford, both of whom sacrificed themselves to their art and died young. Bates accelerated his end by straining the muscles of his arm in trying to save a statue from falling. Another example was that of the young French student who covered his bedclothes over the model of his statue to prevent it from freezing and died himself from exposure. To succeed the sculptor must take the risks of his profession. Sketchy work was out of the question in sculpture, and although work that was both sketchy and uncouth was apparently having some success its day could not be long. Turning to Greek sculpture, Mr. Colton pointed out its qualities of fleshiness. In England, on the other hand, we talked too much about the "bony structure," and too much evidence of this structure gave sculpture a deathlike and an ugly look. Besides, the bony forms were not really hard as a stone is; they were always covered with skin and tissue. The flesh was at least as important as the bone, but flesh modelling had always been neglected in this country. Above all sculpture was nothing if not vital. All possible means should be used to suggest vitality, for without it all would come to the ground.

The Liverpool Cathedral foundations will, it is expected, be completed within the next two weeks. The actual excavations and construction have occupied about eighteen months, during which time an average of 120 men have been employed. The specifications, &c., for the superstructure will include the choir, the lady chapel, chapter-house, and the east end vestries.

PEMBROKE COLLEGE, OXFORD.

PEMBROKE COLLEGE offers feature of special interest to architectural and historical students, and was recently visited by the members of the Oxford Architectural and Historical Society. The master of the college (Bishop Mitchinson) met the party, and conducted them round the buildings. Pembroke College was originally Broadgates Hall, the buildings of which stood on the north side of the quadrangle, facing St. Aldate's Church. It was one of the oldest of the halls, and was a great home for the study of civil law. In 1612 it contained 131 members. The refectory, all that is left, is now the college library, a room formed over Docklington's aisle in St. Aldate's Church having for many years served as a library. The conversion of Broadgates into a college was the outcome of two legacies left for the foundation of a college by Thomas Tesdale, of Ludwell, and Richard Wightwicke, rector of East Ilsley, and was completed after a long dispute with Balliol, to which Tesdale's money was at first left. King James I. assumed the honours of founder, the Earl of Pembroke, then Chancellor of the University, gave his name to the new college, and the foundation was celebrated with great splendour in 1624. Broadgates Hall had been expanding since its foundation, Beef Lane and Michael Hall in Beef Lane, and various other halls and tenements being successively incorporated, and shortly after the foundation of the college a new quadrangle was begun, the east side of which was finished in 1670, the north side displacing old Broadgates Hall in 1673. In 1674 the Master's Lodgings were built, the old gardens being done away with; in 1868 a storey was added to the Master's Lodgings. The north boundary of the college was formed by the old city wall. A visit was also paid to St. Aldate's Church. The name is derived from "Aldgate" or "Old Gate," on account of the proximity of the church to the old south gate of the city. There existed a twelfth-century church on the site, which stood, perhaps, where the present chancel now is. The Norman arcading, much restored, which may now be seen built into the east wall of the north chancel aisle, and which formerly was in the chancel, belonged to this church. The south aisle or Docklington chapel was built by Sir John Docklington, 1535-6, as a chantry chapel, and formerly contained an altar. It was for many years used as a chapel by Pembroke College. Beneath it is a fine fourteenth-century crypt, with a groined roof. The old arcade, of three unequal arches, dividing the chapel from the nave, was removed in 1862, when the chapel was lengthened. The north aisle was added by Philip Polton in 1455 as a chantry; there is also a record of a small aisle, built in 1674 by John West, of Hampton Poyle, whose tomb, with effigies of himself, his wife and daughter, is now in the vestry. The tower and spire—rebuilt in 1873—were probably erected in the fourteenth century. There is a fine alabaster altar tomb to John Noble, who died in 1552, in the north wall of the sanctuary, and a fine Perpendicular font in the south aisle. In 1862-3 the chancel aisles were added, the south aisle lengthened and much rebuilding done.

The Surrey County Council at their last meeting received the final report on the cost of Kew Bridge, which showed that the total amount expended was 233,685*l.* 3*s.* 5*d.* Surrey's portion of the cost was 117,672*l.* 10*s.* 7*d.*, while Middlesex had to pay 116,012*l.* 12*s.* 10*d.* The joint committee recommended that Mr. W. G. Austin, who had acted as their clerk over a period of about eight years, should be paid the sum of 210*l.* for his services, this amount to be equally divided between the two Councils. The committee reported that a gold medal was awarded at the St. Louis Exhibition in 1904 for the model of the bridge. Arrangements had been made by which Surrey would retain the model and Middlesex would have the medal. An intimation had been received that, according to the regulations of the Exhibition authorities, the gold medal would be in bronze.

The Acton District Council recently decided upon the erection of a new town hall and municipal offices, for which the design of Mr. W. G. Hunt was accepted, and applied to the Local Government Board for sanction to a loan of 100,000*l.* for the purpose. The proposal was condemned by ratepayers. A reply has been received from the Local Government Board declining to entertain the application even to the extent of holding an inquiry, as it appeared to them the scheme had been designed on an unnecessarily elaborate and expensive scale.

NOTES AND COMMENTS.

IT is gratifying to learn that in the Municipal Technical Institute of Belfast there are Sir CHARLES LANYON memorial prizes. The architect who is thus commemorated did more than any other individual to make the Ulster capital what it is. This year the prizes in the senior division will be awarded for a set of drawings representing one of the following subjects:—Chichester Monument, St. Nicholas Church, Carrickfergus; Main Entrance to Bangor Church (co. Down); South Porch, Carlisle Memorial Church; Entrance Gates, Ormeau Park, at Ormeau Road, next Ormeau Bridge. The prize-winner will afterwards have to present sketches of architectural subjects of interest of a date prior to 1750. In the junior division the prizes will be awarded for a set of not less than six drawings of architectural ornament or construction. The drawings must be made from actual measurement, and must be taken from some existing well-known public or ecclesiastical building or buildings, which must be specified. Belfast is marked by shrewdness, and a guide to the prizes and scholarships of the Municipal Technical Institute by Mr. F. C. FORTH shows that sound instruction is obtained by local students at a moderate expense.

THE increase of interest in etching which has been witnessed in recent years must, we suppose, be taken as an endeavour to rival photography. The style of production which many have adopted can be quickly executed, and on that account the art has been compared to lyric poetry, as representing impressions which have not lasted for a long time. There is a risk, especially among young amateurs, of considering etching as quite a modern art in England. More than sixty years ago the Etching Club brought out excellent plates. Still earlier JOHN L. COTMAN etched buildings in England and France in masterly style. CONEY'S architectural subjects were most careful, although his anxiety for accuracy sometimes impeded his dash and vigour. JOHN CONSTABLE produced a few small etchings, and E. W. COOKE'S "Fifty Plates of Shipping and Craft" appeared in 1829. GEORGE CUITT was engaged in etching some of the Chester buildings in 1810. F. C. LEWIS appears to have been etching from 1802. MORTIMER'S first etchings were published in 1778, and BARRY brought out his plates from the wall-paintings in the Society of Arts' premises still earlier. TURNER'S etchings were only preliminary outlines for the mezzotinters. The South Kensington Museum contains a splendid collection of etchings and other prints, and a second part of the catalogue compiled by Mr. MARTIN HARDIE has been issued by the Board of Education, which will be a great benefit to collectors and students.

THE French rule by which a builder is responsible for his work during ten years after its completion is considered to be a hard one by English builders. But the case of PEDRETTE *v.* The Brighton Corporation, which came before the Court of Appeal on the 15th inst., suggests that it would be legal in England to keep a contractor responsible for six years if not for a longer time. We have before referred to the case while in the preliminary stages. The plaintiff executed works for the Corporation amounting to over 50,000*l.*, mainly for foundations of a generating station. It was necessary for him to give security to the extent of 8,000*l.* His bankers undertook the office on his depositing 6,000*l.* in cash and 2,000*l.* in securities. In addition, there was a reserve held back for a year after the completion of the contract. He received the retention money, but when he asked for his bond the Corporation declined to part with it, although the bank was released. The plaintiff sought to have the bond delivered to him, but Mr. Justice BUCKLEY dismissed the action with costs. Mr. PEDRETTE then appealed; however, he was not more successful. Their Lordships considered that plaintiff's responsibility did not end after a year had elapsed, for if any latent defect was afterwards discovered there would be a remedy against the contractor. The Master of the Rolls said there was a case in which it was found years afterwards that work had been scamped in some way or other, and in that case the liability of the contractor was established. His Lordship added that the liability continued upon the contractor and his surety for any latent defect in the work. It was not desirable that his liability should go on for ever, and it would not be necessary, because the Statute of Limitations applied to this sort of liability as well as to any other. It was not necessary to embark on that consideration, which was one of public policy. Parties could always protect themselves by special stipulations; if they did not they must take the benefit and the burden of the general law.

IN his "Architectural Sketching and Drawing in Perspective" (London: B. T. BATSFORD), Mr. H. W. ROBERTS calls attention to the indifference about perspective drawing which prevails in many offices. This he ascribes to South Kensington methods, which one architect called "a wheelbarrow in a cobweb." Students are perhaps disappointed on finding that what are considered the first principles have to be modified in practice, and no draughtsman who produces many drawings is entirely faithful to the rules in any one treatise or system. What STUART MILL says of algebra is to a great extent true of perspective, viz. "it derives none of its certainty from what are commonly taught to learners as its elements, since these, as laid down by some of its most eminent teachers, are as full of fictions as English law and of mysteries as theology." "R.'s Method," or Mr. ROBERTS'S, can be described without injustice or dispraise as an empiric method. There is a reference to angles and tangents, and plus and minor signs are occasionally introduced. But all the exercises can be gone through without being subjected to any severe tests. The author relies to a great extent on sheets of ruled lines arranged at several angles, which he has already published and which we have praised as expeditious aids, especially in cases where perspective drawings have to be produced in a hurry. Whether Mr. ROBERTS'S system will supersede those which have been long familiar may not be certain, but there is no question that a novice, by following his instructions and with the aid of his diagrams and lines, could produce an architectural or landscape perspective which would serve ordinary requirements.

ILLUSTRATIONS.

WATERLOO CHAMBERS GLASGOW: RESIDENTIAL FLATS.

COTTAGE HOMES, SHIRLEY, SURREY.

IN December we published views of the cottages, schools and other buildings erected by the Guardians of the Poor of the parish of Bermondsey from the designs of Messrs. NEWMAN & NEWMAN. The estate has an area of over 70 acres. The cottages are so placed that the view of one cottage is not obstructed by any other. There are double and single cottages, the former accommodating thirty children and the latter fifteen children. Altogether five hundred and seventy children are provided for. There are also residences for the staff, probationary block, porter's lodge, a school with ten large classrooms, and a drill hall which is used as a chapel, &c. The contract was carried out by Messrs. CHARLES WALL at a cost of 143,268*l.*

AUCHENTROIG, BUCHLYVIE, N.B.

CATHEDRAL SERIES.—TRURO: BAPTISTERY FROM THE SOUTH-WEST.

A COMPARISON BETWEEN THE MEDIÆVAL ARCHITECTURE OF ENGLAND AND FRANCE.*

(*Concluded from last week.*)

T may be well to notice here some other points in which the Saxon love for wooden construction persists, such the cushion capital, which probably had its origin in aring off the four sides of a tree trunk where it is mored into another timber, and the extreme fondness for aded and panelled decoration, much more natural in od than in stone. There is also this to remember. When Normans came to England they had already learned to ild in stone probably from their Italian masters, but their decessors, the Scandinavian invaders of the eastern nties, were, like the ancient Greeks, essentially a shipilding race, accustomed to the use of large timbers and planking on curved surfaces. In the eastern counties, refore, we find in several cases, as at York and Ely, ne vaulting imitated in wood, and, an original developnt to which there is nothing corresponding in France, in y elaborate open timber roofs made of large timbers. ey are also confined to the eastern counties. Of the rty-five examples in Brandon only one belongs to ucestershire and four to the Midlands. While in the nch roof the tie-beam is a mere light tie often suspended m the main trusses by braces, as at St. Ouen, these shiplders use a heavy tie-beam carrying the king-post, and en it sagged took to bringing forward the sole piece into church and connecting it by long curved struts like ship s with the rest of the roof, and so developed the hammerm roof.

But with the Norman Conquest a most energetic impulse given to stone construction. The Normans had by t time become far the greatest builders in Europe, and glish Mediæval art never even attempted to escape m the influence of the great churches which were nded or rebuilt at the Conquest. The English cathedral lways the Norman abbey church modified or imitated. three nearly equal, sharply marked horizontal divisions he Norman design, with little or no expression of vertical tinuity, persist almost to the end; the vaulting shafts lom run down to the ground, but end sometimes on the cus, as at Lincoln, or just above it, as at Exeter and Ely, way up, as at Salisbury, at the clerestory, as at Wells; clustered columns are arranged and designed not in ous groups and sizes, as at Bayeux or Coutances, so as mark distinctly their various purposes, the arches, mould-s, or ribs which they represent or carry, but so as to bring he greatest number of detached or semi-detached shafts, e of which may even have nothing to carry, as at Durham Lincoln, and, since these were whenever possible made urbeck marble, which could only be got in short lengths, ular bands had to be introduced, and the abacus also ame circular and uniform. That the pier should cate and lead the eye up to the vault was the nch ideal; that it should be beautiful in itself, the lish one—so much so that, as in the very beautiful nple of Exeter, the arch mouldings are even adapted to pier, instead of the pier to the arch. The arch mould- themselves soon become less grouped, smaller and h more deeply cut than in France, more like mouldings ood, more in keeping by their strong contrasts with the k and white of the columns, well suited to our grey ate, and at their best, as at Lincoln and Durham, exitely beautiful. But as the use of marble in the piers es the mouldings become shallower and mere arrangets in grey, frequently worked on the chamfer, in strik contrast to those of late French work, which become er cut and more wire-drawn in order more clearly to nguish the different ribs as they run down and make verticality even more marked. On the other hand, the lish mark the horizontal division even more by the duction of the hood-mould over the pier arches, an out feature by rights, a sort of bolection moulding in stone, king off the arch with a sharp dark line. Again in con with the French, the wall which disappears with them he incessant vertical lines give a sense of irritating essness to their later styles is in English work everyre visible, and its restful suggestion of strength and t repose most grateful, while the long drawn-out pertives of aisles and arcades give the special character to the whole which in France is found in the soaring elevation of each separate vaulting bay.

But the real glory of our English art is to be found in its latest form, due to the way in which the English mason when left to himself, and deprived during the Hundred Years' War of all French influence and help, reasserted his own originality and worked out a completely new system of vaulting, which gives to our Perpendicular a stately life and vigour almost lacking in late French Flamboyant. The early French vaults were so largely influenced by the domical vaults of south-west France, such as that of Poitiers, that the builders hardly got rid of the idea that each vaulting bay ought to be a separate entity, by preference a square, as in hexapartite vaulting, and at least domical, if not a dome.

This feeling never influenced the Normans, but from the very first, as at Durham, they tried to keep the ridge level, using segmental ribs and stilted wall arches. But these level-crowned vaults are weaker as a whole than the domical ones, and each panel in itself is weaker in construction, because in the French vault the half wall arch or half transverse arch, as the case may be, is divided into the same number of parts as the half diagonal rib, which, of course, is the longer, and each row of stone is laid as an arch from one to the other on a movable sliding centring or "cerce," and as each course becomes of necessity broader towards the diagonal the whole panel rises with a twisted or plough-share curved surface, as at Amiens, to a straight-arched joint joining the top of the wall arch or transverse arch to the intersection of the diagonals. But if the mason is unskilful and does not distribute the difference in length between the ribs evenly over his courses he gets some of them wedge-shaped, and ends with a joggle instead of a straight joint along the crown. This may be well seen in several bays of Westminster cloisters. To the Englishman, accustomed to curved planking on his ships, it seemed much simpler to treat the courses like planks of the same width all along, and dividing therefore the half rib and half arch into an unequal number of equal parts, instead of, like the Frenchman, into an equal number of unequal ones, he got not a straight joint, but a dovetail along the ridge, and his vaulting panel ceased to be curved and self-supporting and became flat and weak. So an intermediate rib or lierne was inserted to strengthen this, and then others, till after passing through the stage of Lincoln we reach such a beautiful form as Exeter. But a difficulty arose with these liernes. They varied greatly in length according to their position, and were all much shorter than the diagonals. Either, therefore, the ridge could not be kept level or the curves of the shorter ribs must be "judged," as at Minster. Where the curve changed a short cross rib or tierceron was put and a star of lozenge pattern obtained with the ribs, as in Worcester cloister and at Christchurch. Then bosses were put where the ribs intersected, as at Lincoln and Canterbury, and all sorts of fanciful arrangements of the ribs indulged in, till the practical result was a ribbed waggon vault with intersections, as in Winchester nave and Gloucester choir, while from the number of ribs of similar curve springing from one capital and meeting a flat ceiling arose the fan vaulting of the cloister, where the curves are simple. Then from changing the curves to make them meet a level ridge where there was no flat ceiling arose the four-centred arch, the form usually adopted in fan vaulting, and which naturally, as the pointed arch had done previously, descended through the wall arch and window heads into all the rest of the building. Having thus got the idea of this cone of spreading ribs, it was ingenious to bring it out from the wall and spring it from a pendant as centre, as at Christchurch and Oxford Cathedral, or even to bring it out so far as to quite complete the cone and let it meet another half cone springing from the wall, as in the Divinity School, Oxford, and that final masterpiece of Henry VII.'s Chapel, so easy to criticise, so impossible not to admire. The important point to notice is that in these latest vaults the true function of the multiplied ribs has entirely disappeared, and they and the intermediate parts are all cut out of large blocks of stone, and we have returned to the Roman waggon vault, with its continuous thrust, a strange result to follow from a slight alteration of the arrangement of the stones in the vaulting panels, and yet inevitable from rigidly following artistic reasoning. It is rendered all the more striking by the fact that the French, who strictly adhered to their original system, never arrived at these rich vaults. Here and there, as at Caudebec, we find a pendant taking the place of a central column, but it is

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A paper by the Rev. G. H. West, D.D., A.R.I.B.A., read e meeting of the Architectural Association on Friday evening, uary 9.

a *tour de force*, and in late French vaults, as at Abbeville, pendant bosses are quite common and lierne vaults, as at St. Riguier, not uncommon; but when we meet with anything like elaboration, as at Rue, it is a piece of fanciful decoration, not a natural artistic development.

Time will not allow of our following out fully the development of window tracery in the two countries. France got ahead of us in the earlier stages, owing chiefly to our adherence to the long, narrow lancet, a singularly beautiful form, especially in the triplet and in larger groups, as at Salisbury and York. Its origin is a little puzzling. I believe it was simply the translation into a pointed form of the triple arch of the Norman clerestory, with the centre opening higher than the others. Our specially English Perpendicular seems to have sprung from Reticulated tracery, itself a development and modification of our flowing Decorated, our English, but much more beautiful, version of the French Flamboyant. St. Mary Redcliff, a very striking example of our later style, shows us a Reticulated and a Perpendicular window almost precisely similar at the east end. It is worth while to compare this interior with that of Abbeville. On the whole I think the English example is the finer, beautiful though the other is. Although the English example is a good deal the earlier, yet they may be taken as the last word of the art of the two countries before absolute decay began. We have no church of the first rank as late as Abbeville; perhaps St. Michael's, Coventry, comes nearest.

Let us now glance back at the results of our study. In spite of some resemblance there can hardly be a greater contrast than that between the French and English cathedral. In the exterior of the former, which is generally obviously the result of one great effort, the walls are standing in slices at right angles to the building which they support but do not enclose, towering high above it, and seeming to push and thrust with all their power to keep up its enormous height. It is very wonderful and very beautiful, but leaves a sense of constant effort to overcome difficulties after all only partially vanquished. What a difference is there in the peace of the long, low English cathedral, with its insignificant buttresses and unambitious lines, with no traceried canopies or wealth of sculpture, and, except for the upward pointing of its central spire, seeming content to remain on earth, and telling in its unequal parts and varied styles, not of a mighty impulse which faltered all too soon, of a lofty enthusiasm which died down to mere mechanical dexterity, but of successive generations of commonplace yet earnest men, each bringing its little stone and saying, "Add this to the rest. Take it and try its worth; here dies another day."

And in the interior also the story is the same. In the English church we trace the stolid acceptance of existing facts, which preserves all that has gone before, however imperfect, and, adding here and changing there, makes up a building, humble-minded, as it were, with a wooden roof perhaps, content to suffice for the needs of the present, telling in every corner of the makeshifts of the past, with no sign of anxious, unrealised ambition for the future, incapable of perfection because begun and ended incessantly, and always without continuous design, yet breathing out an indescribable charm of sympathy almost human in its loving reverence for the results of all past human effort. But in the other the soaring lines which guide the eye upward ever to the vault of stone poised miraculously on its walls of painted glass seem to tell of master minds of long ago, of those few to whom God whispers in the ear.

For when earth had attained to Heaven there was no more far nor near for those who, greatly daring in their implacable logic, swept ruthlessly away all that had gone before, had planned to raise a structure complete and harmonious all through, the absolute expression of one overmastering ideal of future perfection, bound to remain incomplete at the last from the weakness of all human aims and means, for they had aimed at the high that proved too high, the heroic for earth too hard, yet therein lies its undying power. While our cathedrals tell of the strong consciousness of the historical continuity of the nation which has made of the English a governing and imperial race, the Mediæval architecture of France is the expression of that logical and artistic nature which has made the French through all European history the originators of the noblest social ideals, the exponents of their highest expression in art. And here it is that the French art towers far above the English. It is far more the expression of the nation's soul. So far as building only makes use of its materials dexterously, appropriately, beautifully even, with limbs and fingers only, it falls short of the highest; so far as it lays open the soul of man or of the race, it reaches it. The expression closely-reasoned design in admirable construction suitability to its purpose is perfect in such a building Notre-Dame, or Amiens or Reims. No more marvell temples for the worship of God can be imagined. Ye is not in that their chief glory resides, but in that arti sense which made of the French cathedral a perfect c bination of all the arts, more complete than even the Gr temple, because not only are its parts as inseparable even more perfectly co-ordinated, but because it is the pression of a fuller ideal as belonging to a later, more c plex civilisation, the work of a race as highly strung as Greek. This artistic expression is found most in that of the cathedral which was the least fully worked out— great west front. There is not one which is not open to severest criticism as to proportion, adaptation to its purp disposition of lines and parts. Yet there we find the expression of that indefinable quality, the artistic se which all the Latin and Greek races possess, but whicl lacking more or less, so far as regards the material arts almost every race of Teutonic origin. Just compare No Dame with Wells, Amiens with Salisbury, Chartres Peterborough, York with Abbeville. The sculpture of W is a work of genius, full of life and expression and h qualities of execution, but what a poor and monoton design, with mouseholes for doors and tall columns scaffold-poles all up the front. Then take Notre-Da Its horizontal lines are too strong, and it is too much into squares, but what restfulness in the wall spaces, beautifully the statues on the piers carry on the of sculpture, what noble proportion and sense of sc Why, the Arc de l'Etoile is exactly the same s and looks about half, and, above all, what wealth of mar lous imagery. Then put Amiens and Reims by the sid Salisbury, with its meaningless jumble of petty dis nected parts, or of Lincoln, with its senseless screen Lichfield, with its shopful of squat statues on brack Amiens had its towers cut in half for want of funds; Re was set back on its ground floor and never finished for same reason. Both lack the repose of Notre-Dame, with all their defects, which are many, especially the br ing forward of the door jambs at Reims in front of buttresses, how wonderful they are. And remember of these fronts has a complete system of iconography, w I cannot explain to-night. The main point to note is all French sculpture from the very earliest period shows artistic genius of the race. Take the statues from the front of Chartres, which date from about 1140. T excessive elongation, which strikes us as archaic, is entirely so, but due to a naïve, artistic feeling that, pl as they are amongst columns, their lines ought to harmo Then if we look at the faces, they are studied from nat and are of a thoroughly French type, but idealised. Ind they are much more individual than those of the end of twelfth century, when there is a tendency to adop definite generalised ideal. When we come to thirtee century work, such as that of Notre-Dame, note the and breadth of the work, especially of the angels and double row of heads and the wonderful figures from Re all as fine as any Greek art, far more a part of the buil to which they belong, and full of what Greek art i search for perfect physical form generally lacks—the s of living humanity and of humanity conscious of its p to rise above itself.

Then with the heavenly calm of the blessed contras wild confusion, the rush and whirl of the other side. especially the Horsemen of the Apocalypse, Fan and, most of all, Death. I know nothing to equal it. who rides on the pale horse is shown here as a wo with blindfolded eyes. She has leaped in front of a exultant in his strength, and stabbed him with a huge so that his bowels are pouring out, and he has fallen wards over the horse dead and limp, while she, clin tightly to the creature's neck, is making him rush on outstretched head in an agony of terror. The whole is most awful drama of human life and death. I might g to compare the grand triple porch of Peterborough—a is very impressive—with the great porches of Char and we should find the same difference in artistic qu But, leaving this work of the best period, let us take s of the latest, and even there we shall find the same. now, worn down as it is, there are few more exqu things than the great porch of St. Maclou, and its tympa of the Last Judgment is almost as fine as that of N Dame. Hear what Ruskin says of it:—"The sculptu inferno side is carried out with a degree of power iose fearful grotesqueness I can only describe as a ngling of the minds of Orcagna and Hogarth. The mons are perhaps even more awful than Orcagna's, and some of the expressions of debased humanity in its nost despair the English painter is at least equalled. Not s wild is the imagination which gives fury and fear en to the placing of the figures. An evil angel ised on the wing drives the condemned troops m before the judgment seat; with his left hand drags behind him a cloud, which he is spreading like a winding sheet over them all; but they urged by him so furiously that they are driven not rely to the extreme limit of that scene which the sculptor fined elsewhere within the tympanum, but out of the npanum and into the niches of the arch; while the flames it follow them, beat by the blast, as it seems, of the angel's ngs, rush into the niches also and burst up through their cery, the three lowermost niches being represented as all fire, while, instead of their usual vaulted and ribbed ling, there is a demon on the roof of each, with his wings ded over it, grinning down out of the black shadow."

ien put Abbeville by the side of York. The latter in its ld precision of rule and triangle and perpetual perpendicular panelling is only not dead because it has never lly lived, not dumb because it never was taught to speak; ile the other, though that saddest of all earthly things, an finished ruin, yet speaks all over with a thousand tongues. ough one of the latest buildings in France, a mass of sms, of interlacing curves, scientific and geometrical from se to summit, it is full of an artistic feeling and poetry nost entirely absent from the other.

I do not say that either the science or the art of the ddle Ages, English or French, is a thing for us to imitate wadays. On the contrary. But I do say that it is deserving all our study and all our admiration. It belonged to the n of those times; it was the expression of their need d the fulfilment of their history, and its expression in ir lives; it tells us of the ideal at which they aimed and w they strove to reach it. It sprang from their heart, s part of their life. Can we say as much of our art of day? Pardon me if before I conclude I rapidly review main results at which we have arrived.

I have tried to bring before you not mere differences of le founded on details of moulding or tracery, things of real importance, but to show you how English and ench Mediæval architecture are each of them the outcome the character of the race, the result of the history of the tion, the expression of the people's ideal.

The same national characteristic of "drift" which is rs to-day, and which takes us muddling along with no finite aim or plan for the future, and which led ward III. in his blundering rush across Northern France he was brought to bay on the hillside of Crecy, led also workmen of his time to close their vaulting panels just yhow, provided they got them closed; the same sturdy nmon sense and determination to stand shoulder to oulder in whatever they undertook, which made the king mount his knights and place them side by side with the asants, row over row, on that gentle slope, and which ve to them all when thus united the power

> To turn to flight on that famed Picard field
> Bohemia's plume and Genoa's bow and Cæsar's eagle shield,

de them also build their walls always thick enough to ry the vaults or else rest satisfied with a wooden roof, d caused them also to be content to mend and patch their itage from the past rather than sweep it all away in the e of replacing it by some marvel of quite unattainable fection in the future, till in the end the gradual blending all classes and of their aspirations made itself felt in ir art, as in their social life, and the architecture of the hedral, the monastery and the castle found its last expression in the village church, the manor-house and the m. In art, as in empire, the English race has ever been same—opportunist, realistic almost, incapable in material tters of ever forming an ideal much above the here and w of daily life, yet blundering unconsciously in spite of mselves into marvellous results in both art and empire.

And so with France. It was the same chivalrous devon to an ideal which drove to death the knights at Crecy d Agincourt, which also inspired the burghers of the nmunes with their wild enthusiasm for liberty and with ir determination to find for their thankfulness a visible ression in their vast cathedrals. It was the same pitis logic and thirst for an ideal which dictated the unswerving policy of Louis XI. and of Richelieu, which later made the nation sweep away all its past in a torrent of blood in the vain hope of bringing back the golden age, and which also in art inspired the reasoning and the artistic sense whereby the builders of Vézelay and of St. Denis were led on from Notre-Dame through the perfection of Amiens and the lovely folly of Beauvais and the ruinous, unfinished beauty of Abbeville to the last wire-drawn skeleton of a sixteenth-century church. Through it all, up to the very end, these builders were true artists, aiming at expressing a something higher than themselves which should draw up into sympathy with them all that was best and noblest of those around them. Which of the two nations did best? It is an old question, which each artist—each man—must answer for himself. Whether it is better to aim at a lofty ideal which, proving beyond our reach, may become a mere dream of Heaven, or to be content with a lower one within our grasp, even though it may keep us bound to earth.

Mr. W. H. Seth-Smith, in proposing a vote of thanks to Dr. West, said they had all enjoyed his paper, which was a wonderful combination of the artistic, constructive and historical elements of the subject. The reason, probably, for the masterly treatment of the constructive side was that Dr. West had been thoroughly trained as an architect both in England and France, and that he had had the special privilege of being associated with Viollet-le-Duc. The lecture they had heard was most important, because it would make men sympathetic with Gothic work, and counteract the strong tendency that existed nowadays to set it aside in favour of Classic studies. For his own part, the speaker said he had much sympathy for Gothic, and he was always pleased when their students got opportunities of hearing such lectures, which emphasised the logical outcome of Gothic work.

Mr. H. Stannus, who seconded the vote of thanks, said the paper had been so perfect that it was impossible for any one of them to criticise it. In the short space of time given to the reading of the paper he had never heard such an admirable explanation of the differences between the two great styles, French and English Gothic.

The President joined with the meeting and thanked Dr. West for his brilliant, delightful and intellectual lecture, and the evening terminated.

ROOFS, SCREENS AND ROOD-LOFTS.

A LECTURE on "Some Points of Architectural Interest in our Parish Churches," forming the first of a series, was delivered at Carpenters' Hall, London Wall, E.C., on Thursday evening, the 15th inst., by the Rev. Walter Marshall, M.A., who stated that with regard to the beauties which Mediæval architecture presents to the architectural student, there are few more striking than the open timber roofs which adorn so many of our churches and halls, testifying to the constructive skill as well as artistic feeling displayed by the carpenters of that age. The effect of these roofs, with their bold receding arches, massive, richly moulded and carved timbers, spandrils filled with intricate tracery, profusely ornamental cornices and exquisitely carved bosses, should rivet the attention of every spectator. When there is added to this the blaze of rich colouring, of which most of the roofs show traces, the result attained would be a degree of splendour that it is difficult to imagine in these days of more sombre treatment.

There is an absence of open timber roofs, the lecturer went on to say, in the early period of Gothic architecture, which appears very unaccountable at first, because one would naturally suppose that as timber roofs of a necessity preceded stone vaulting, the most beautiful and elaborate forms of roofs would also occur prior to the magnificent examples of groined vaults in stone, which still remain in all our cathedrals and many parish churches as monuments to the constructive skill and genius of the masons of the Gothic period. But the reason for this is not far to seek when the serious fires are taken into account that destroyed Canterbury and other cathedrals about this time; the builders, finding that it was possible to use stone for roofing purposes, soon became so proficient in the use of this material that the mason seems to have excluded the carpenter almost altogether, both from constructional and ornamental work.

The best and most numerous examples of timber roofs occur in our parish churches, and a few old palaces and halls, which still remain as relics of kingly and baronial magnificence. The timber used was nearly always oak or chestnut, and the different parts were always mortised and tenoned together and fixed with wooden pins, no iron ties, straps or even nails being used in any part.

Roofs may be best divided into five classes:—(1) Tie-beams, (2) trussed rafter (or single frame), (3) hammer-beam, (4) collar-braced, and (5) aisle roofs, but in many instances these classes became combined in one roof. After giving a minute description of the different roofs, of which illustrations were also shown by means of lantern photographs projected on a screen, the lecturer concluded this part of his subject by remarking that of course colour played an important part in the decorative splendour of Mediæval roofs, but the general practice was only to tint the mouldings and carvings. In flat roofs the panels were frequently painted blue and powdered with gold stars. The enrichment of the portion of the roof over the altar was generally observed; it sometimes consisted of the whole chancel, but more often of one or two easternmost bays. The importance of colour to accentuate mouldings at a height, and for giving prominence to carving and heraldic devices, cannot well be over-estimated, as these bright touches of colour do much to light up the sombre effect of the woodwork, and thus greatly enhance its charm.

The succeeding portion of the lecture was devoted to the subject of rood-screens and lofts, and the lecturer pointed out that a clear distinction must be made between the rood-screens in a cathedral or collegiate church and those in a parish church. In the cathedral or collegiate church the screen, almost invariably of stone, is of much more solid construction than in the parish church. In both types of buildings it answered the purpose—one amongst several—of dividing the nave from the choir. But in the cathedral this division was of necessity far more marked than in the parish church, because the choir was reserved for the use of the clergy, provision for the laity being made in the nave. The choir of a collegiate church before the Reformation may therefore be considered as a church within a church, and thus this choir was not only cut off from the nave by the solid screen, as shown at Tattershall (Lincs), but also when there were aisles to the choir they were shut off by screens, but not generally of so solid a character as the rood-screen. It was necessary no doubt to have these solid enclosing screens to a collegiate choir, in order that the clergy might not be disturbed during their offices, and also that they might receive some protection from the draughts inevitable in a large building. But their use was also symbolical as well as practical; they marked the separation between the faithful and the sacrifice, the nave and chancel, emblematic of the Church militant and the Church triumphant.

The lofts were used for various purposes. The priest read from them the Epistle and Gospel, and for this purpose the rood-loft in a collegiate church was capacious and easily accessible. To show the size of one of these rood-lofts reference was made to Lincoln Cathedral, where the loft measures 42 feet in width by 12½ feet in depth from east to west; thus a considerable space was provided for an elaborate ceremonial in which not a few could take part. Altars, of course, were not uncommon in rood-lofts, even in parochial churches, as at Maxey and New Shoreham. Sermons were also preached from this position before pulpits were introduced, and announcements were made therefrom. It was also occupied by the "minstrels," and constant reference is made to "a pair of organs," *i.e.* one complete organ, in inventories. Of course these organs were quite small and wholly different to the instruments which sometimes assume such enormous proportions in these days. But although organs are in danger of occupying a too prominent position, architecturally and ritually, in our churches, still it must be remembered that the organ for centuries has been placed in the rood-loft.

Coming now to the parish church, it was apparent that almost all churches before the Reformation were provided with a chancel screen and a rood-loft placed upon it; however, the screen seems to have been used first without the loft, because the earliest examples of screens do not seem to have carried any loft, as, for instance, the beautiful screen shown at Stanton Harcourt (Oxon), which is probably the earliest example of a chancel screen existing in England. It seems impossible to say the precise period when these rood-screens were introduced, but it was probably about the thirteenth century, because frequently in Norman and Transition Norman churches there is distinct evidence that the jambs of the chancel arch have been cut away for the fixing of the screen, and also in some cases for the inser of the rood-loft staircase. The fine church at Wals (Norfolk) shows this very clearly. In parochial chur the screens and lofts were nearly always of timber, s screens being the exception. It is not very often that than one staircase is found to the loft, and it occurs on the north and south sides indiscriminately, whichever the more convenient. Sometimes the staircase developed into a turret, thus becoming a delightful fea as shown in the internal and external views of Laven (Suffolk).

The tops of most of the rood-screens to-day prese unfinished appearance, which is owing to the destructi the rood-loft, in accordance with the royal injunctio 1564, and in 1576 Archbishop Grindal makes inq "Whether your rood-lofts be taken down and altere that the upper part thereof with the loft be quite t down unto the cross-beam, and that the said beam some convenient crest put upon the same." This inq explains the disappearance of the rood-lofts and roods a single example of a Mediæval wooden rood being kn to exist), and also it explains why the screens ben them, separating the nave from the chancel, have allowed to remain *in situ*.

On many other points bearing upon the subject lecturer gave much interesting information, illustrated numerous beautiful photographic lantern views, which large audience evidently duly appreciated, and at the a unanimous and hearty vote of thanks was accorded t Rev. W. Marshall for his admirable lecture, while, at instance of the Worshipful Master of the Carpenters' C pany, a vote of thanks was also tendered to the Dea Chichester for presiding on the occasion.

IMPROVEMENT OF EDINBURGH.

AN address was delivered by Bailie Dobie to the mem of the Edinburgh Architectural Association on " "Æsthetic Duty of a Corporation towards a City." M O. Tarbolton, president, was the chairman.

Bailie Dobie said that the beauty of a city depe on two things—the natural configuration of the groun which it was built and the tasteful ingenuity of Edinburgh occupied a first place in the ranks of the for the position of the Old Town set on the ridge exten from the Castle to Holyrood being of such a nature almost any arrangement of buildings would, on accou the irregularity of the site, be quaint and picturesque. cities like Edinburgh, where nature had given such a and surroundings, man had felt that little was requir him. The city attained a certain dignity and beauty wit his aid; he turned his attention in other directions appeared to him that was not the right way to look at matter. If their forefathers had taken advantage of wonderful opportunities offered them by nature, and addition, had made the same strenuous endeavours less favoured communities had to use, the result have been a vision of beauty very difficult now imagine. Nuremberg was cited as a case in p where the old Mediæval architecture was retained an building was allowed to be altered or rebuilt without permission of local authorities. Say that this principl recently even as sixty or seventy years ago, had adopted in connection with the "Royal mile" from Castle to Holyrood and all the northern slope of the ri say that their forefathers had been wise enough, inste filling up the Nor' Loch, to have deepened it and ke clean and fresh, and at a later date had prevented the way company from irretrievably destroying that sple valley, they might have had in their very midst a pic which, he ventured to say, could not be equalled anyw else in the world. That this spirit did animate the r and citizens of Edinburgh at one time was proved by splendid conception and carrying out of the plan of New Town, and for that their successors were unde eternal debt of gratitude to them. Unfortunately this velopment of civic art in Edinburgh did not continu was followed by a period of pure utilitarianism, from w it had only emerged at intervals. During the last fifty y much had been done in the city that should not have done, and chances innumerable of producing feature great civic beauty had been ruthlessly thrown away, b was not yet altogether too late to prevent destruction of m that was well worth retaining, and it was possibl improve a great deal of what was objectionable and uns tory. Above all, it should be the duty of every citizen earnestly strive to see that what was done in the future s for the lasting benefit of the city and the dignity of the pital.

For want of some central organisation of taste watching refully over the amenities, buildings were erected with ference to no other consideration than the personal erests of their promoters. Some cities excelled in their velopment along the lines of municipal art because the ople themselves were artistic. Take Paris, for example. a new building of importance was to be built, a model of and the surrounding buildings was made, so that the ect could be judged from all points of view. If such a urse was adopted in Edinburgh, would there not have en an outcry before it was too late against the mass of e North British station hotel, which dwarfed and destroyed contrast the post office and register house, and even emed to put the Calton Hill itself out of scale, and would ey have permitted the straight line of the Caledonian ation hotel to cut off one of the finest views they had in linburgh? The same course was followed in Paris in nnection with the erection of decorative sculpture. He ed not argue that it was desirable to attain civic beauty; took it for granted that every one desired it. Neither ed he go into the financial aspects of the question further an to say that it had been shown very clearly by other cities, it most notably in the case of Paris, that very large sums of oney spent judiciously in the beautifying of streets, open aces, gardens, &c., were well invested and brought return to ery class of the community by attracting visitors and resi- nts. He unhesitatingly said it was the duty of a city possess- g such advantages as Edinburgh to make the very most of em, and it was the duty of the Corporation of a capital city make such necessary regulations as should prevent any- ing likely to interfere with its beauty and interest. The ouncil, too, should devote more attention to civic art; but this they must be heartily supported by the community nerally, because it was only by the definitely expressed ish of the citizens that anything important could be complished. Municipal representatives, as a rule, were clined to look in other directions for the welfare of e citizens. Sanitation, public health, cleaning, police rangements and many other things were all necessary for e well-being of a community, but he held that municipal t and the material dignity of a capital should have with ese things equal consideration. But they had not been uch thought of. The municipality had left the individual his own devices. The result had been heterogeneousness ad confusion, and there had not been sufficient public inion to stir them to action either in the direction of con- ol or initiation.

There were two matters which had to be considered— st, preventing the individual from doing anything which ould impair the beauty of the city; and, second, the rporation themselves making improvements, which eant the spending of money from the rates. With gard to the former, there were many ways of limitation. uing plans should be laid out for whole districts instead for merely the small piece belonging to a particular vner, regardless of the plan of his neighbours, and for the rpose of having roads and streets of sufficient width, fficiency of open spaces and other matters the local thority should have supreme power. This authority, hich was at present both the Town Council and the Dean Guild Court, and should probably be the latter, should strengthened from outside by artistic advisers, either ith statutory powers of veto or advisory powers only, in hich latter case the success of such work would depend the depth and continuance of the active public interest ken in the matter. As a mere indication, he ventured to ggest that such a committee as he spoke of might consist , say, the President of the Royal Scottish Academy, the resident of the Architectural Association, the Professor of ne Arts, the Chairman of the Cockburn Association, the hairman of the New Art School, which, he trusted, would on be an accomplished fact; the President of the Anti- arian Society and other gentlemen of a like character. his committee might have a certain control over the corative quality of the architecture, of the heights of uildings, the kind and colour of material to be used for nstruction, and generally with everything which affected e amenity of the city. Hanging signs should be of tistic importance in proportion to the class of street ey were in; lamp-posts might be better designed; if ey were to have overhead wires for tramways care ould be taken with the poles and brackets; chimney-stalks where they were likely to interfere with the amenity should be prohibited or specially designed. The high tower of the Calton Gaol, for example, was a chimney-stalk; and business signs might be subject to some measure of control to prevent them running to riot, as they did in some places.

Dealing with the point which, he said, required very serious and immediate consideration, viz. the case of old buildings of historical, archæological or architectural interest, Bailie Dobie referred to the regulations which Professor Baldwin Brown, in his book on public monuments, mentioned as existing in other towns on this subject. He (Bailie Dobie) about a year ago made an attempt to get a register of all such buildings in Edinburgh made with the intention of trying ultimately if, in one of their provisional orders, it were not possible to get powers to prevent alterations without consent of the local authority. As a general indication of the lines to go upon, he would go the length of suggesting that the whole of the "Royal mile" should for this purpose be scheduled. Some such committee as he had spoken of should also have some power of initiation and suggestion of schemes for the improvement or beautifying of the city to the Town Council, with whom, of course, would be the ultimate decision if it were to be carried out or not. For many years Edinburgh had spent very little money on anything that assisted materially to develop municipal art. The rebuilding of the North Bridge was a striking example of a missed opportunity. Compare this clumsy erection with the graceful Alexandre III. bridge thrown over the Seine a few years ago, or the new bridge over the Danube at Budapest, which were true works of art and a constant pleasure to look at for themselves alone. He could think of nothing else for a long time except the partial rebuilding of the back part of the Council Chambers and the restoration of the piazza on the High Street front; and it looked as if they were again going to lose a golden opportunity by not adding something toMr., Usher's gift, and secure a city hall worthy of the Scottish capital. In this, as well as other important public work such as the rebuilding of the North Bridge, an architect either by selection or competition should be chosen rather than city officials, who had their own well-defined lines of work.

Thanks to private enterprise, however, there had been many fine buildings erected in Edinburgh within recent years, and the most important of all was unquestionably the west side of North Bridge Street, built by the proprietors of *The Scotsman*. This was one of the most important sites in Edinburgh from a picturesque point of view, and there was a risk of it being made or marred by what was put on it. Luckily for the city, it was taken in hand intelligently and with splendid liberality, the result being a beautiful street and a credit to the city. Several of the banks and insurance companies had from time to time even in recent years given them noble specimens of street architecture; and when they saw private companies and firms going to such expense on the purely decorative parts of their buildings, he believed they had therein encouragement to think that the community generally would exhibit a spirit of self-sacrifice sufficient to enable some such restrictive measures as he had indicated to pass, and also put their hands into their pockets for the comparatively small amount per annum that would be necessary to make their city even more than it was at present a "city beautiful." There were other æsthetic duties the Corporation might perform, which he had not time to enter upon. There was, for example, the duty of the Corporation towards the graphic arts—direct purchase of pictures from the annual exhibition and possibly elsewhere, the founding of a suitable art school, the finding of a site for a new national gallery. It all went to show that the Corporation of the city had æsthetic duties to perform, the importance of which, he ventured to say, the majority of the members utterly failed to grasp; and he thought it was the duty of an Association such as this to lead the public, and by combination with other bodies, by meetings, by agitation, and generally by means that the ratepayers as a whole knew so well how to adopt when it was a subject that interested them, to force their representatives to give the attention to those matters which, he was sure they would think as he did, were of very vital importance.

Mr. Richard Augustus Withall, of Branksome, Lytton Grove, Putney, architect, formerly of 29 Great George Street, Westminster, who died on January 28, left estate valued at 63,056*l.* 15*s.* 5*d.* gross and at 62,954*l.* 17*s.* 10*d.* net.

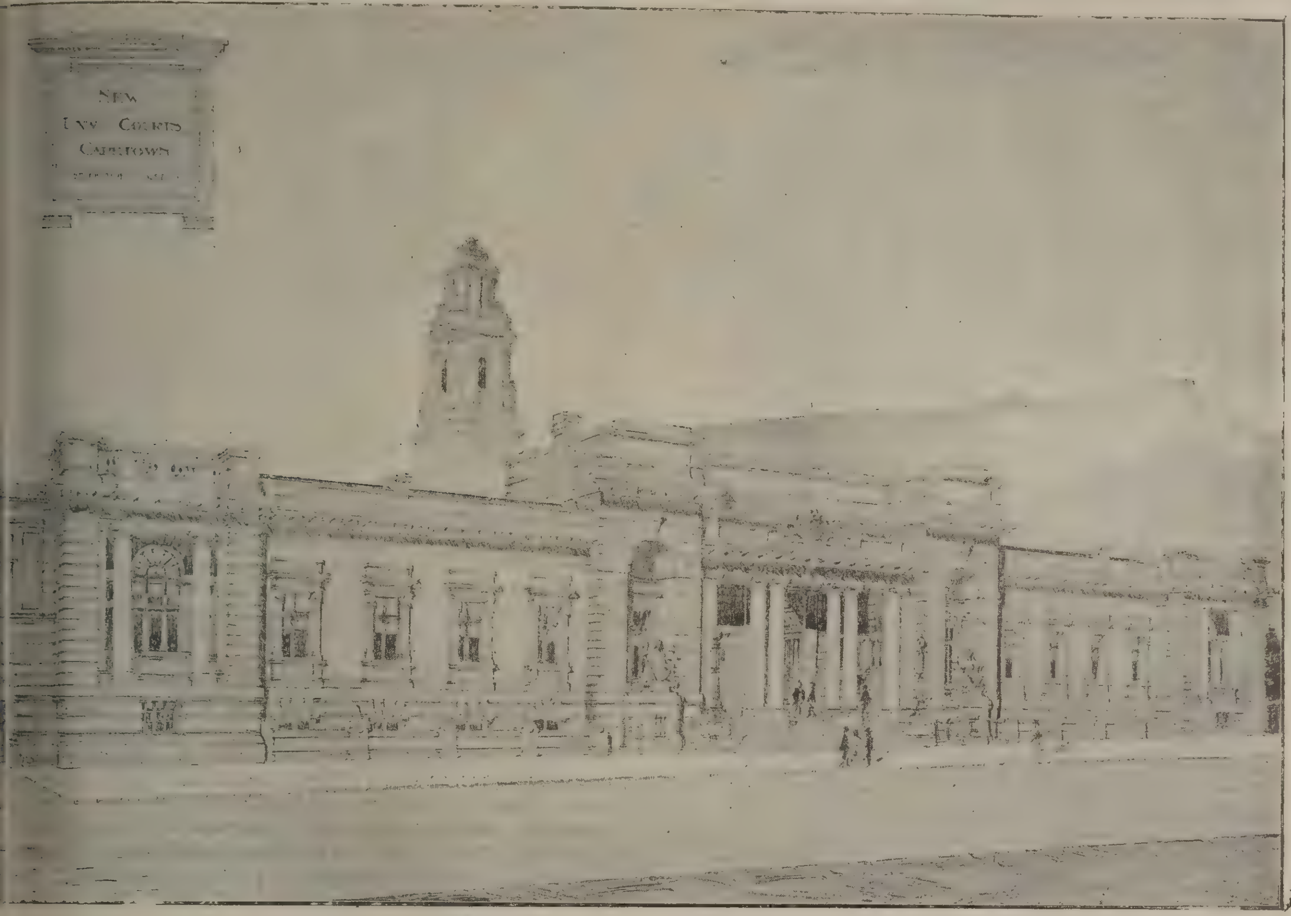
THE "ARCHITECTS" OF IRISH COTTAGES.

A PAPER on "Housing of the Rural Labourers" was read by Mr. R. M. Butler, architect, in Dublin. After describing the character of the cottages erected under the Act since 1883 to March 1905 at a cost of 3,288,829*l.*, he said that were only qualified architects employed at a suitable remuneration, the work would have afforded in the past, and would continue to afford in the future, a considerable number of young Irish architects a very suitable field for employment, with advantage, he was sure, to the ratepayers and the occupants alike. But what were the facts? He could imagine no stronger argument for "Statutory Enrolment," "Registration," call it what they would, than the state of affairs in that particular, for but a small minority of the Councils retained as architects men with any semblance of qualification. Some of the men engaged in that responsible work, involving such large outlay and such great moral responsibility, were utterly unfitted for their positions; some had never superintended the putting of one stone upon another. Some were men who had done a little bit of speculative building on their own account; some were tradesmen who had never made, and occasionally could hardly read, a plan; others were county surveyors' assistants in remote districts, whose principal previous technical experience had been road mending. There were worse cases, but there were one or two gentlemen in the room who could bear him out that he was not exaggerating. The Local Government Board declared they had no power to stop the system of the miraculous creation of architects and engineers; usually the appointments were tendered for, and invariably gained by personal influence, the successful competitor being, by a stroke of the chairman's pen, invested with the magic degree of "architect and civil engineer to the Ballymuck Rural District Council," and then he blossoms forth into private practice. The result was often ill-designed and carelessly or incompetently superintended work, and in addition qualified architects were robbed of legitimate sources of livelihood. The same or a worse state of things prevailed in many districts as regarded the contractors. Men of the most incompetent type were readily employed, so long as they had sureties and tendered at a low figure. In the more remote districts it was impossible to attract a respectable class of contractor, and the work fell to men who had never before built a house, seen a plan or had the remotest idea of the value of work, or how to set-out or construct it; their estimating was evolved by a process of combined intuition and sportsmanlike pluck. They knew a similar cottage was built in such and such a place, and tendered a few pounds more or less. Occasionally those men were thoroughly dishonest, unscrupulous to the last degree, and a book might be written of the laughable blunders, the extreme and low cunning that some of them displayed. They were employed sometimes because none others could be obtained, sometimes after the other tenders had been on three or four successive occasions rejected as too high. To meet with a couple of really "bad eggs" on a scheme was enough to turn an architect's hair grey, for no amount of supervision could produce good work from such men. They were neither able nor willing to do their work honestly or decently. So much for the seamy side. On the other hand, he had personally, in the districts that he had had experience of, invariably met with courtesy and consideration from the Councils. He had found them ready and willing to pay a professional fee, and kind and considerate clients, ready to pay a competent contractor a fair price, and appreciative of good work. The contractors he had met had, almost without exception, done their work faithfully and well and given little trouble, and he had the pleasantest recollections of his dealings with them; but he feared he had been exceptionally lucky, probably owing to the fact that the work was not so very remote or scattered, as was often the case. Now as to a remedy. As regards the architects, "Registration" in some form or other was the only real solution; but the Local Government Board ought to be empowered to refuse to consider any scheme not signed by an architect of at least some experience. He did not propose that every man should be a Norman Shaw, or even a member of the Institute, but some standard should be set up. Millions of public money was involved, and he felt convinced that a firm remonstrance, or even friendly advice, if it went no further, from the Local Government Board as to the necessity of employing competent men, would in most cases be productive of good. As to bad contractors, he could only suggest as a remedy the more frequent grouping of cottages. That would tend to economy, and at the same time attract better contractors, while men notoriously guilty of fraudulent practic their contracts should be "starred" and excluded ever again tendering for work under a district council, a list of such men should be supplied to the Local Go ment Board for the use of their auditor. Before finis he might touch on the clerk of works. Very few Cou employed them in addition to an architect. The good of works who brought to bear skill, energy and ho upon his duties was rare, and a jewel beyond price. architect in charge of a big labourers' scheme who blessed with the help of such a man had much to be tha for. The great work of the last twenty-three years housing of the rural labourer—had been little talked a but it was one that Ireland had reason to be very prou While rural England was being rapidly depopulated, in Ireland had accomplished so much. They never much of it, but it had done more than anything el combat the awful drain of emigration. Since the pa of the Act there had been authorised close on 2 labourers' cottages, each with its little plot of land, capable of accommodating in modest comfort, he sh say, an average of not less than five persons per hous say, 121,000 to 125,000 souls—a small number in parison with the total population of a nation, but when we consider the objects achieved and the difficu that lay in the way.

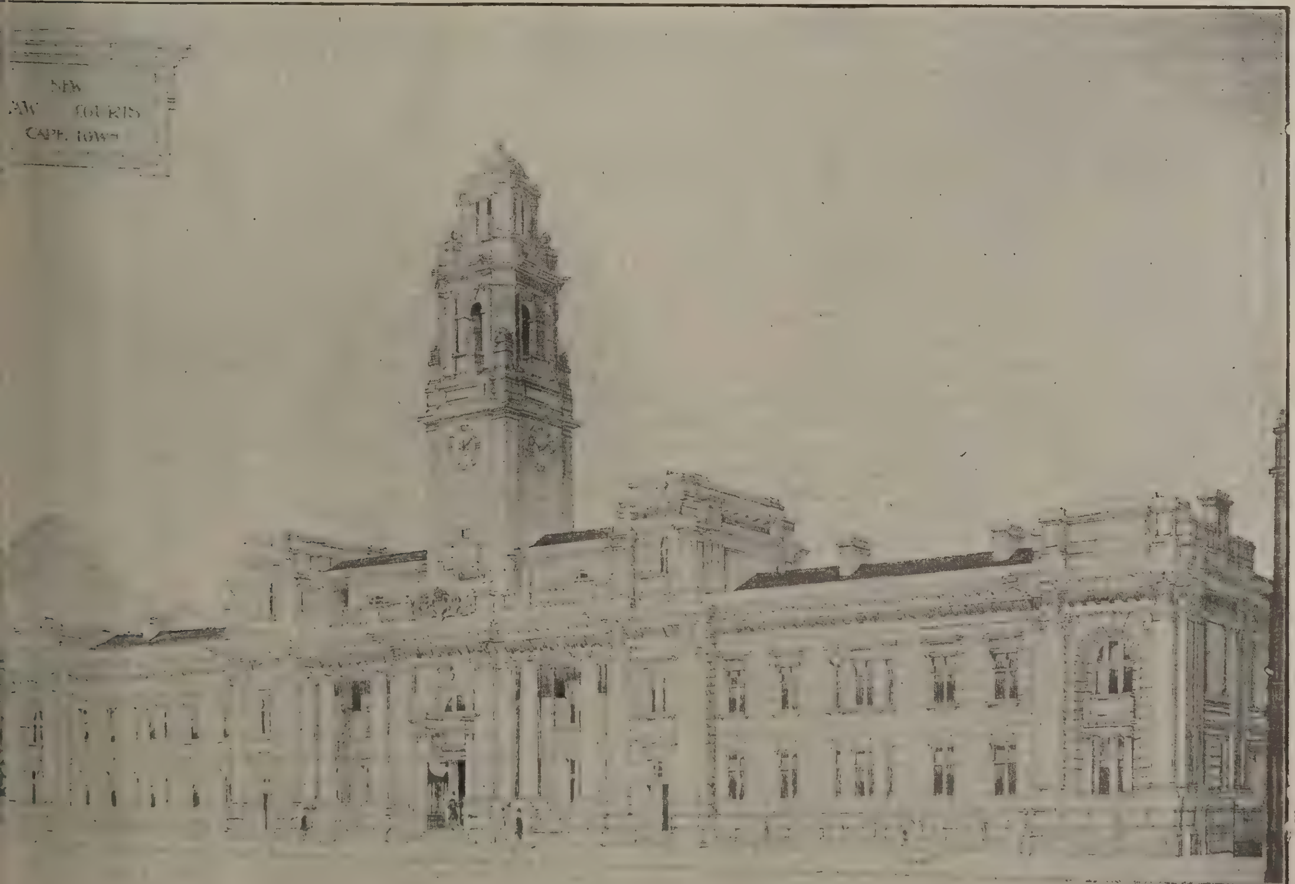
DISCOVERY IN EGYPT.

A CORRESPONDENT of the *Glasgow Herald*, wr from Luxor on February 7, says:—I have jus turned from Der el Bahri (Thebes), after witnessing discovery of a unique monument of ancient Egypt. It shrine of the eighteenth dynasty, devoted to the worsh the cow-goddess Hathor, and so far as yet known other example of the kind has been found in Egypt. fessor Edouard Naville, of Geneva University, has bee charge of the excavations conducted for several years by the Egypt Exploration Fund at Der el Bahri, on the bank of the Nile opposite Luxor. For two seasons he his party have been excavating a pyramid-temple of thuhotep, a king of the eleventh dynasty, (date (2 86 B.C.), the oldest temple in Thebes, and have alr discovered some most interesting remains of that pe the principal of which are retained in Cairo Museum, others have been sent to the British Museum. Bu the "finds" have been eclipsed in importance by discovery of this afternoon. M. Naville had kindly in myself and my wife to see the excavations, and a half-past two in the afternoon, while he was explai to me the relation of the northern part of the pyra temple to the great temple of Der el Bahri, a n overseer came up to him and whispered something. followed the overseer to the back or western portion of diggings, that which lies against the hillside, and he poi out to us a segment of an archway that had disclosed i as the débris fell away from the slope. There was enough of a gap left for us to creep in, and the exciten was intense. The whole multitude of workers, men boys, stood still, and by-and-by crowded up round us as disappeared within the hole, and the ladies of the p Madame Naville included, watched from a little dista The chamber proved to be about 6 or 6½ feet long, a 6 feet high, with arched roof, and contained a life-size goddess, in limestone, with the sun disc between her ho No other object of the kind has been found in Egypt. hasty examination of the walls, which were beautif painted in colours, followed. On both sides a cov represented, that on the left-hand wall suckling the k and on the back wall are the titles and cartouches King Thothmes III. (date, 1503-1449 B.C.) (Men-Khepe (Jehutimes—Divine Ruler). The latter, Divine R within the cartouche, is a peculiar combination. The o officers of the Fund and the ladies present had a pee the beauty of the chamber, and the opening was t promptly boarded up, in order to have the whole surrou ings properly cleared and to prevent the débris of surrounding slope from falling in, as well as to excl predatory visitors. M. Naville and the Egypt Explora Fund are to be congratulated on this unique discov which it is hoped will stimulate further interest in Fund's work, for which subscriptions are much needed.

Mr. E. J. Tench, of Cambridge, has obtained the first p of 100*l.* in the competition for the offices for the Nor County Council.



FAÇADE WITH MAIN ENTRANCE FACING KEEROM STREET.



FAÇADE FACING QUEEN VICTORIA STREET.
First premiated design by Messrs. Hawke & Mackinlay, Architects, Capetown.

Correspondence

R.I.B.A. Election of Fellows, March 5, 1906.

Sir,—In compliance with requisitions in writing duly signed according to the provisions of by-law 9, the election of the twenty-eight candidates for Fellowship nominated by the Council for election at the business meeting on March 5 will be taken by voting papers.

The Council are aware that these requisitions proceed from a widespread feeling that the Institute should avail itself of the permission granted by clause 3 of the charter to declare that every person desiring to be admitted a Fellow shall be required to have passed such examination or examinations as may be directed by the Royal Institute.

Sympathising with this feeling the Council adopted it as their policy in 1904, and at a special general meeting held on February 29, 1904, a resolution was passed to the effect that after December 31, 1906, no person shall be admitted a Fellow unless he is either an Associate or has passed the examination or examinations qualifying him as an Associate. On the same evening, however, the general body passed the following resolution of the Royal Institute:—

"That during the intervening period (*i.e.* till November 31, 1906) every architect eligible under the charter for election who desires to join the Institute as a Fellow be encouraged to do so."

In consequence of these resolutions becoming generally known in the profession a large number of eligible candidates have come forward during the last two years. The Council are convinced that it is to the interests of the Institute that thoroughly qualified architects in various parts of the country whose age and busy practice preclude from entering for examinations should become Fellows before the door is for ever closed against them.

At the same time the Council has subjected the qualifications of candidates during the last two years to the same careful scrutiny and inquiry as has been their practice during the whole existence of the Institute.

To avoid any possible misapprehension the Council declare that the last election of Fellows under the existing system will be on December 3, 1906.

In view of the requisitions for a poll the Council think it right that members should be reminded of the above facts, and as one adverse vote in four excludes, they desire to direct the attention of members to the gravity of their responsibility when they fill up their voting papers.—We are, sir, your obedient servants,

Alexander Graham, hon. secretary.
W. J. Locke, secretary.

Royal Institute of British Architects,
9 Conduit Street, London, W.:
February 21, 1906.

R.I.B.A. Fellowship.

Sir,—The sympathy of all right-minded members of the Institute can hardly fail to be extended to the indignant feelings of your correspondent, Mr. Musto, at the manner in which elections to the Fellowship are at present being pushed through. There can be no doubt that the best chance under the present régime of attaining the position of F.R.I.B.A. is held by those who are the least known. The man of whom nobody knows either good or bad has only to induce three Fellows to sign his nomination paper, not a difficult matter apparently, and send in a few drawings and photographs of buildings designed by himself, or by a "ghost," and he will be "found by the Council to be eligible and qualified for membership according to the charter and by-laws, and recommended by them for election." He may have tried to pass the examination and failed; that is no bar to the Fellowship.

Part of the blame for the present state of affairs is ascribed to ordinary members who do not take the trouble to acquaint the Council with what they know of men proposed; but in the face of the treatment meted out to the allied societies by the Council, the private individual member is hardly likely to court an inevitable snub.—I am, &c.,

A London Member.

Saxon Snell Prize.

Sir,—Many of your readers will, I think, be interested in having particulars of the Saxon Snell Prize. This prize was founded to encourage improvements in the construction or adaptation of sanitary appliances, and is to be awarde by the Council of the Royal Sanitary Institute at intervals three years, the funds being provided by a legacy bequeathe to the Institute for this purpose by the late Henry Saxo Snell, F.R.I.B.A. The prize consists of 50*l.* and a medal the Institute, and is offered in the year 1906 for an essay o "Suggestions for improvements in sanitary appliances f use in workmen's dwellings and labourers' cottages und the varying conditions of water supply and drainage usuall obtaining in towns and villages."—Yours faithfully,

E. White Wallis, Secretary.

The Royal Sanitary Institute,
Margaret Street, London, W.:
February 21, 1906.

GENERAL.

Sir Edwin Cornwall, L.C.C., M.P., stated recently:—"Th embellishment of London is a civil duty, but it cannot b fulfilled until we give art a larger share in our educatio We want, in fact, to breed a race of Londoners not onl proud of the beauty of their city, but anxious to enhance it

The Manor-House of St. Nicholas, at Wade, near Birchington, the residence of Captain G. M. Smith, was destroye by fire on Monday. The mansion, which was a new on costing about 10,000*l.* to build, was filled with very valuab furniture, the total loss being estimated at not far short 20,000*l.* The outbreak is said to have been caused by th overheating of an incubator.

Mr. C. R. S. Kirkpatrick, city engineer of Newcastle-on Tyne, has prepared a scheme for a new street from Mark Street to Trafalgar Street. The land to be purchased f the new street will cost about 431,000*l.* in all. The eng neer estimates that the surplus land for sale after the ne street is made will realise about 601,820*l.*, which, aft deducting 22,000*l.* for street formation and 25,000*l.* for oth expenses, will leave a profit of 123,000*l.*

Mr. F. R. Kempson, of Cardiff, has been appointe diocesan architect for Llandaff in the place of the late M John P. Seddon.

No. 33 Foley Street, Oxford Street, W., has bee demolished. This was the house where Edwin Landsee was born and lived until he was twenty-four years of ag leaving it in 1825. At the age of thirteen Landseer painte his first Academy picture, which, when exhibited, wa labelled "Master Edwin Landseer, 33 Foley Street."

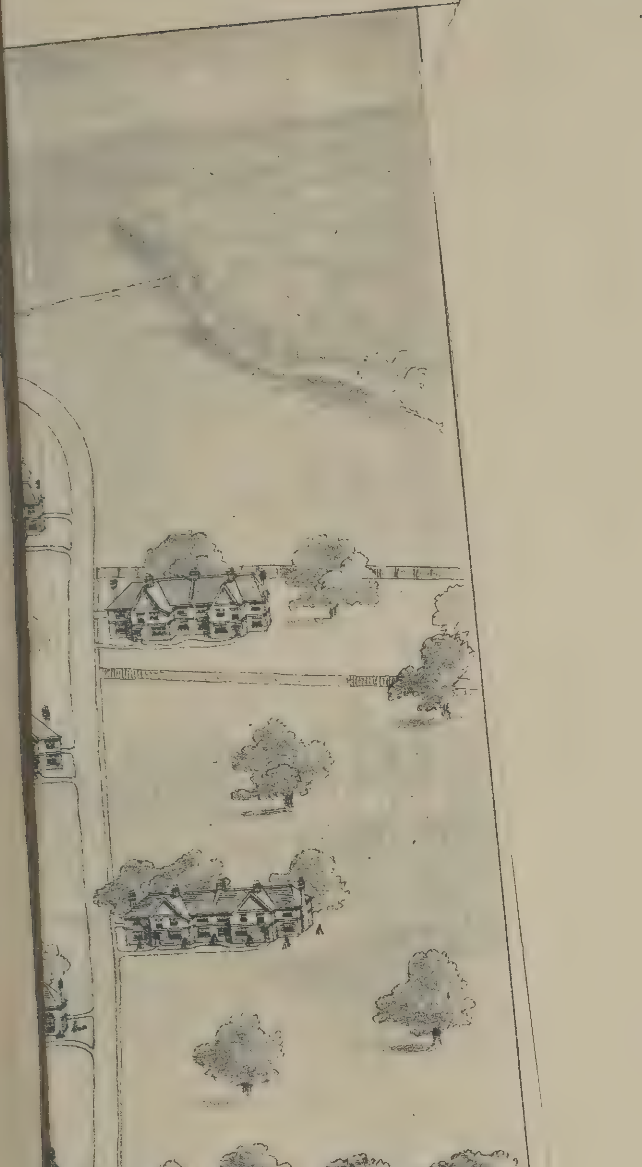
The Northumberland and Durham Provincial Committ of the Surveyors' Institute held a meeting at the Minin Institute, Newcastle-on-Tyne, on Saturday. Mr. Eade, th chairman, announced that the Council of the Institute ha decided to offer three scholarships of 50*l.* a year eac tenable for three years at the Armstrong College, Newcastle.

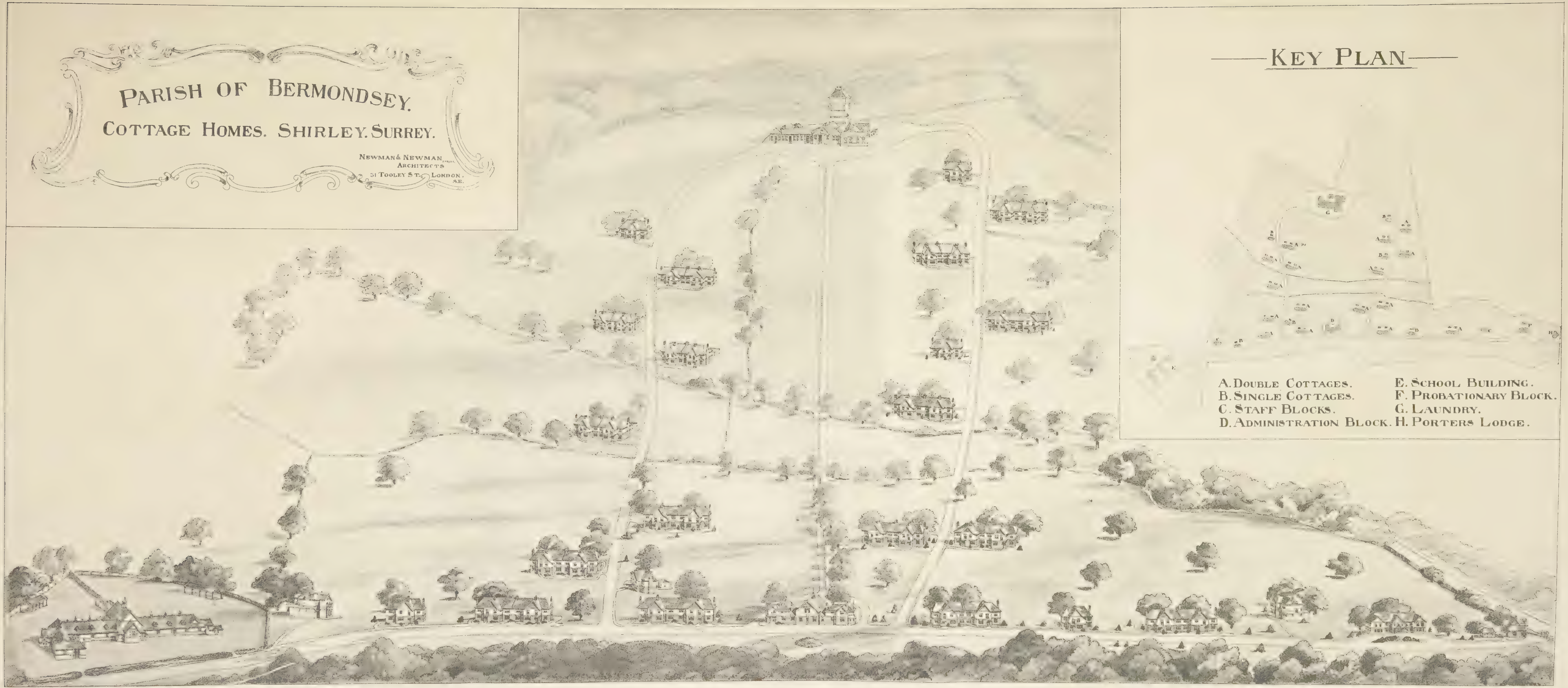
The Chester Archæological Society at their last meetin inquired into the veracity of the generally-accepted notic that the noble house of Grosvenor derives descent fro Hugh Lupus, Earl of Chester. Mr. W. Fergusson Irvin F.S.A., incidentally referred to an ancient document a being of special importance, as it assisted in elucidatin the early stages of the pedigree of the Grosvenor famil "and drives one more nail into the coffin of that ancie and highly respectable myth, the descent of the Grosveno from Hugh Lupus." According to Burke, Gilbert le Gro venator, the supposed founder of the English Grosvenor came over in the train of the Conqueror. But on the auth rity of the visitation of the county of Warwick (1619) he said to have been Hugh Lupus's nephew.

M. Ferdinand Dutert, the French architect, who died la week in Paris, was in his sixtieth year. He was honorar architect of civil buildings and honorary inspector-gener of the teaching of design. Among his works were th immense gallery for machinery in the Exhibition of 1889.

The Holborn Borough Council resolved last week th not more than six architects be selected to submit pr liminary plans for the new municipal offices, and that the be paid an honorarium of 20 guineas each; that they b furnished with plans of the site and of the existing buil ings; that in the consideration of the plans preference b given by the establishment committee to those showing a economical use of the land; that the committee be em powered to consider the plans when received, and subm a further proposition upon the matter.

Mr. G. E. Smith, architect, Portsmouth, has been awarde the first premium in a competition for a Wesleyan churc at Freemantle, Southampton.





PARISH OF BERMONDSEY.

COTTAGE HOMES. SHIRLEY. SURREY.

NEWMAN & NEWMAN FFRIBA.
ARCHITECTS
31 TOOLEY ST. LONDON.
S.E.

KEY PLAN

A. DOUBLE COTTAGES.
B. SINGLE COTTAGES.
C. STAFF BLOCKS.
D. ADMINISTRATION BLOCK.
E. SCHOOL BUILDING.
F. PROBATIONARY BLOCK.
G. LAUNDRY.
H. PORTERS LODGE.

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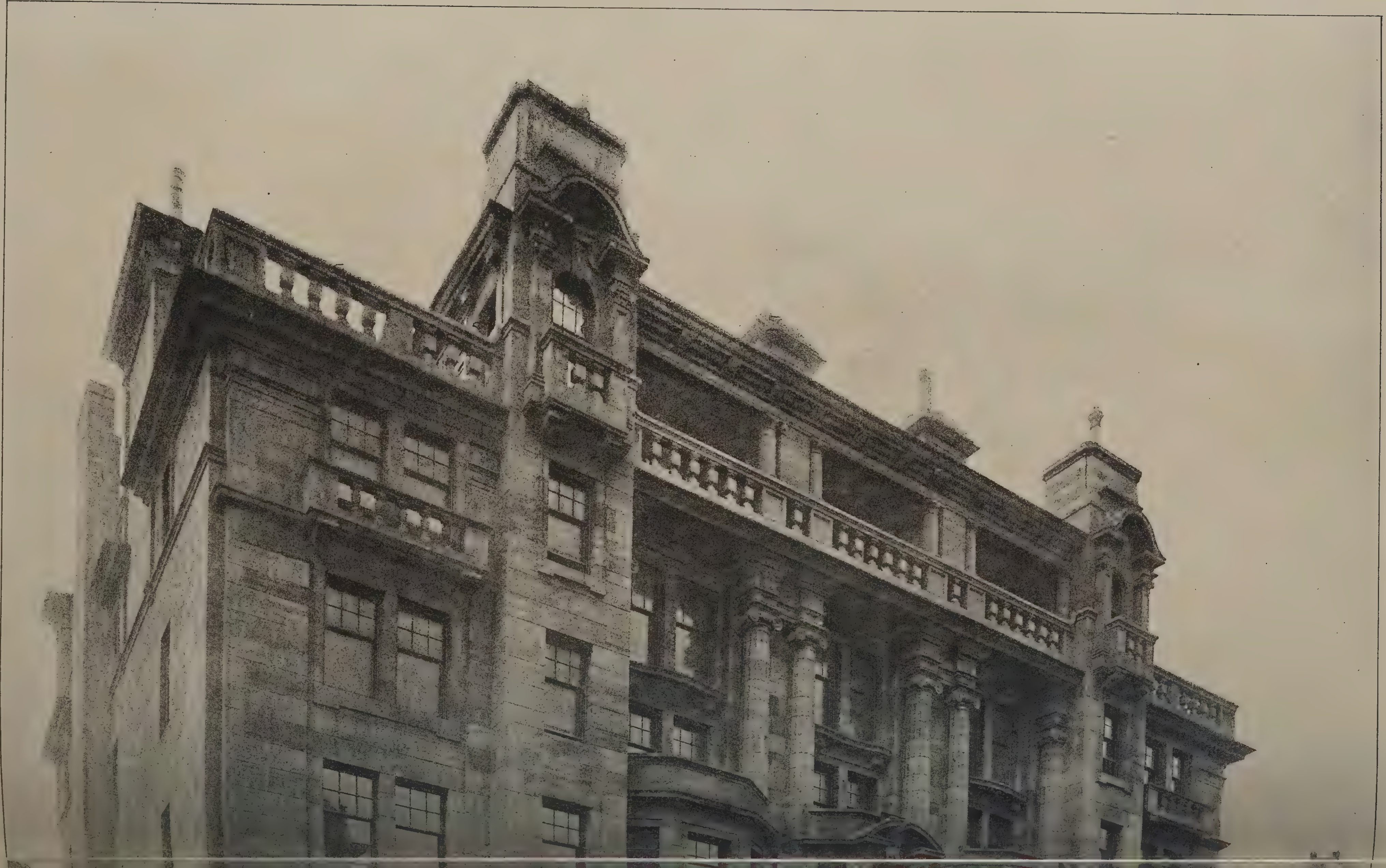

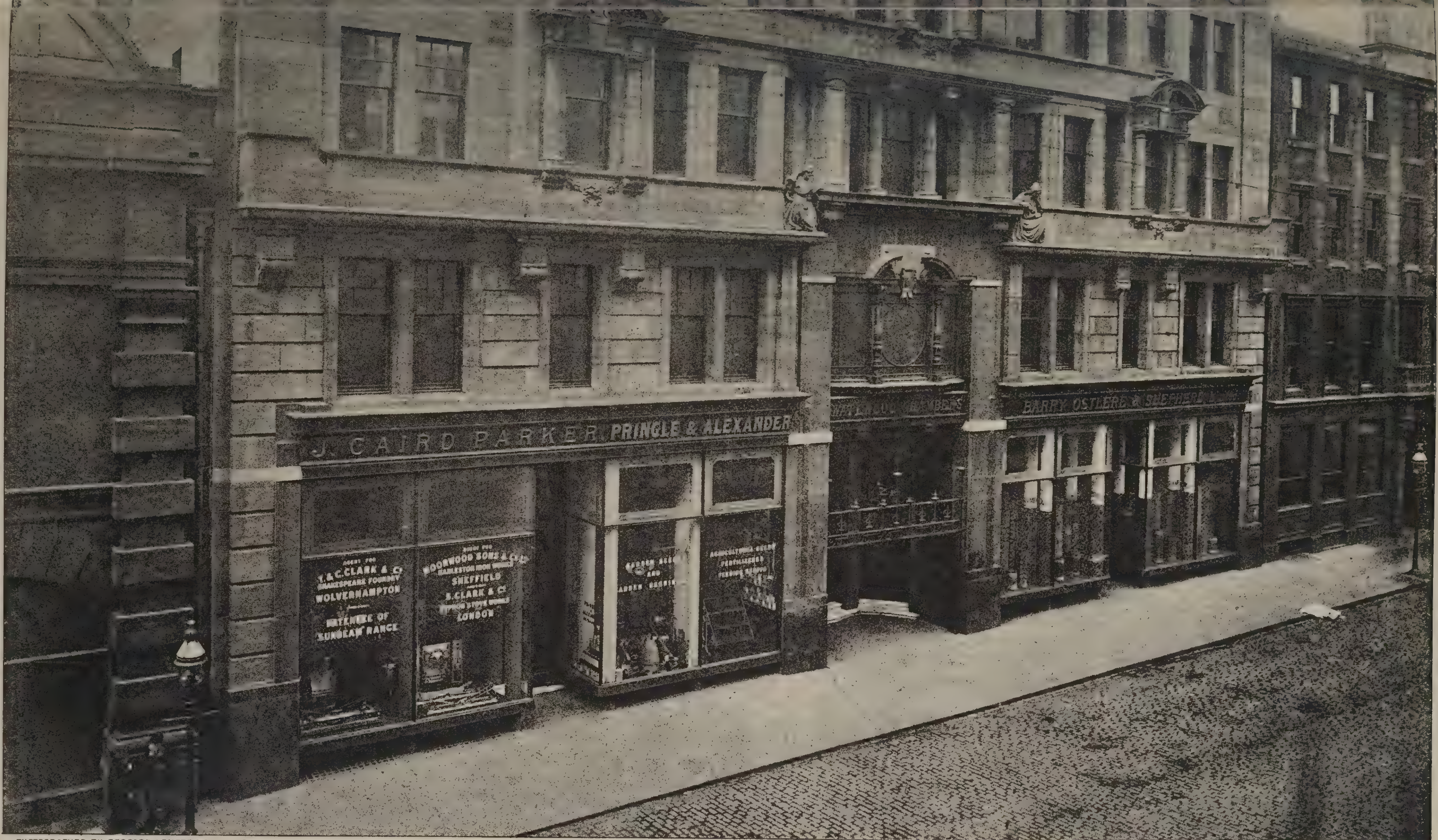

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WATERLOO CHAMBERS, GLASGOW: RESIDENTIAL FLATS.

Messrs. J, BURNET & SONS, Architects.

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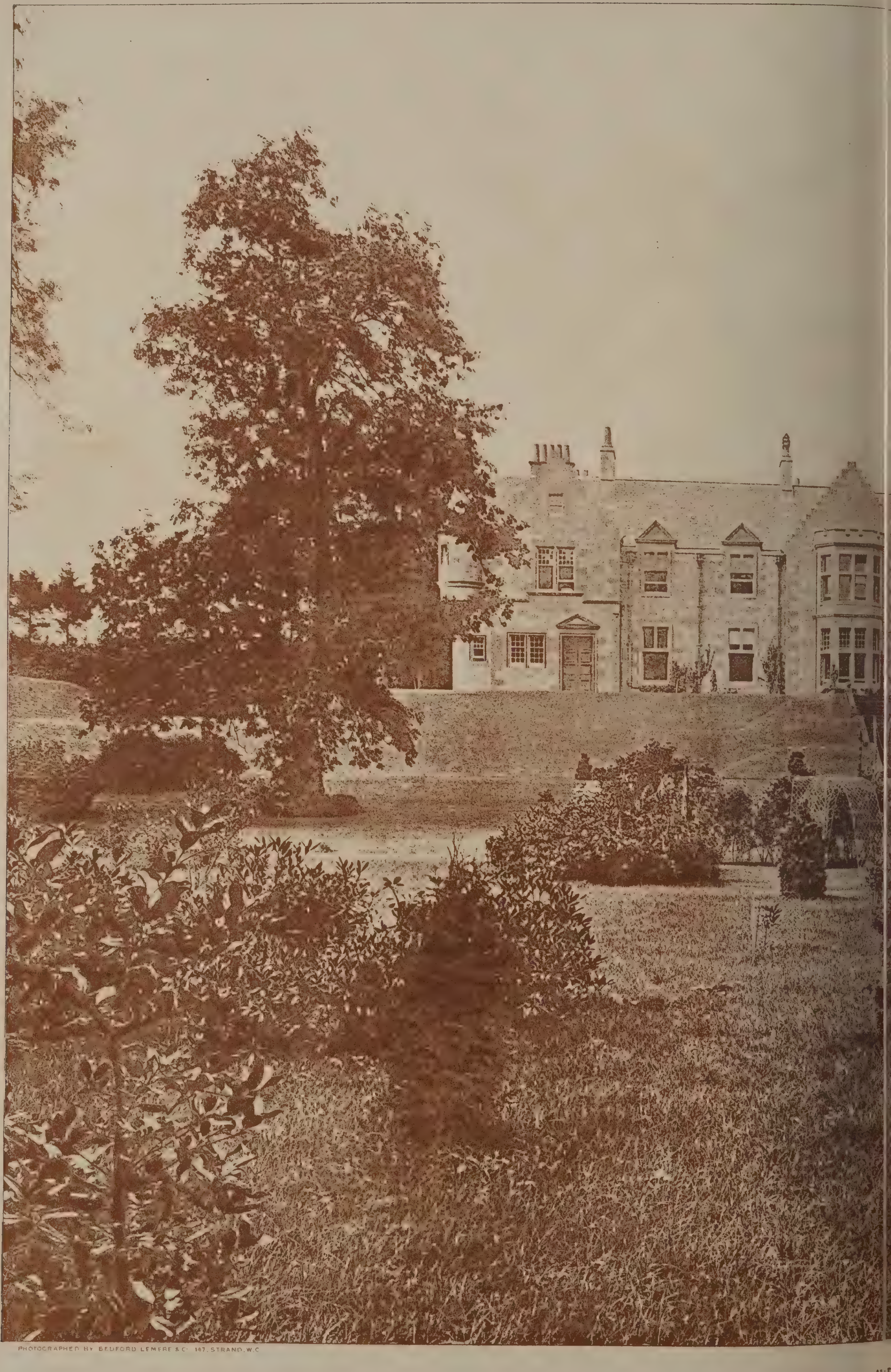

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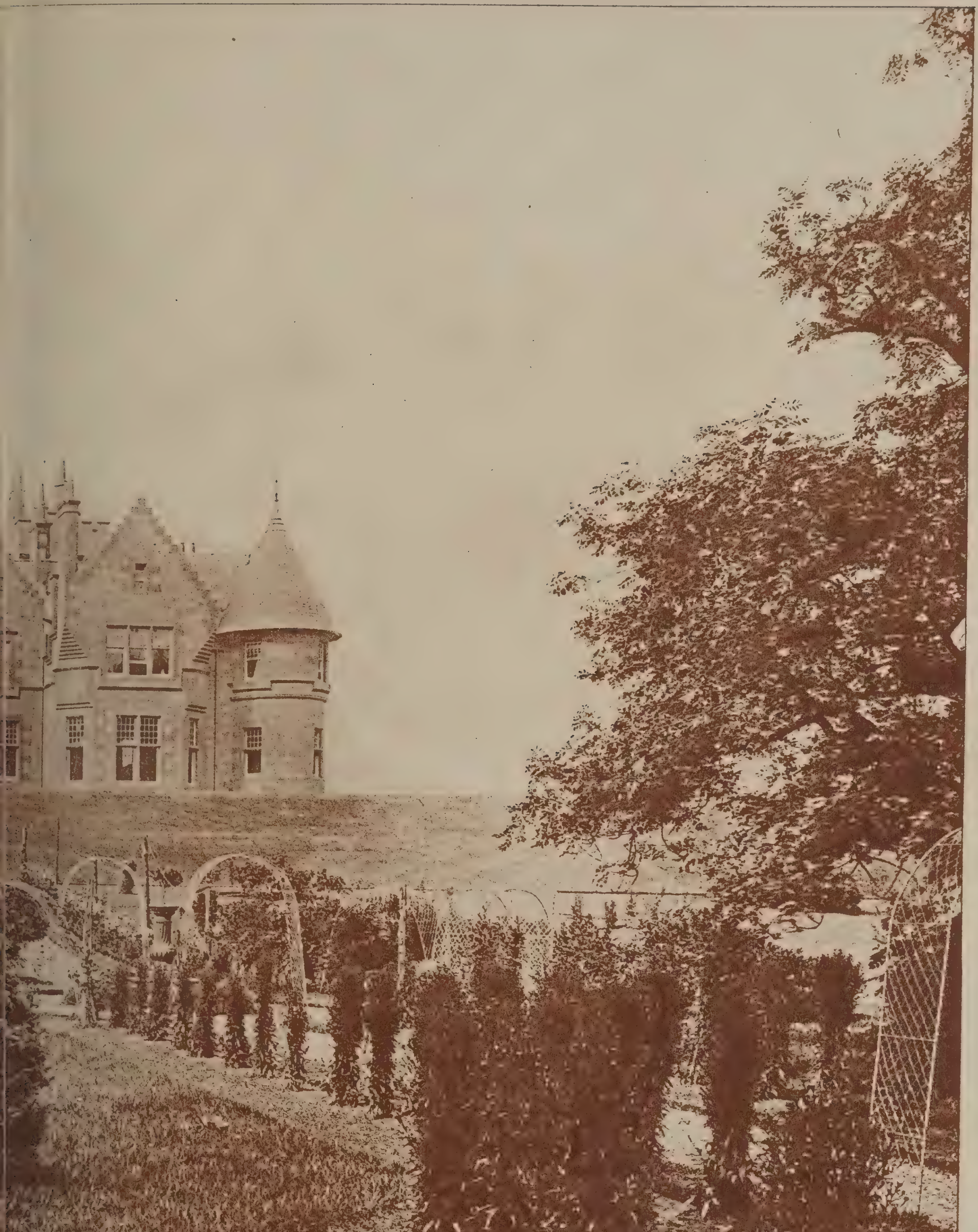
“AUCHENTROIG,”

E. SIMPSO



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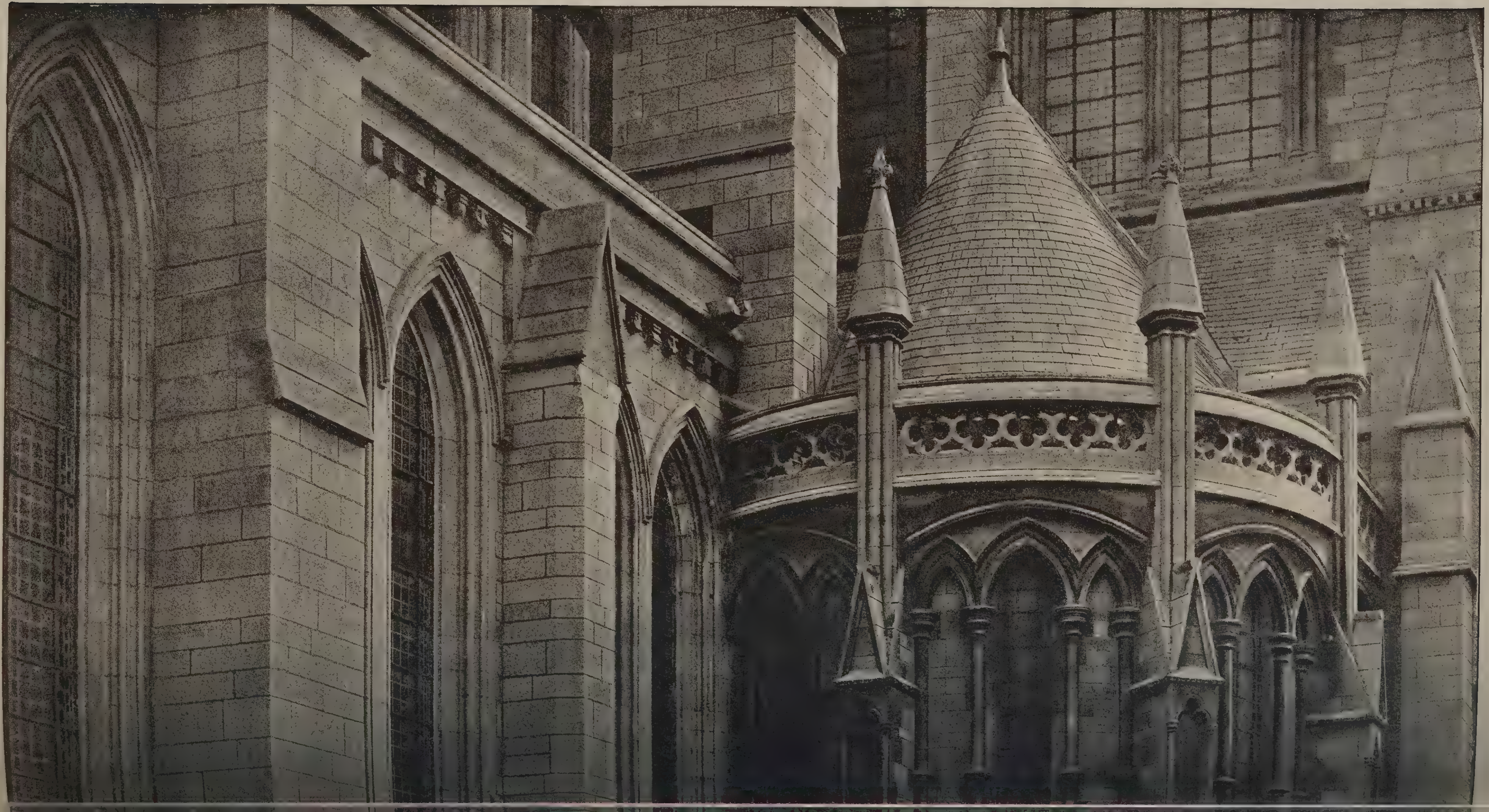

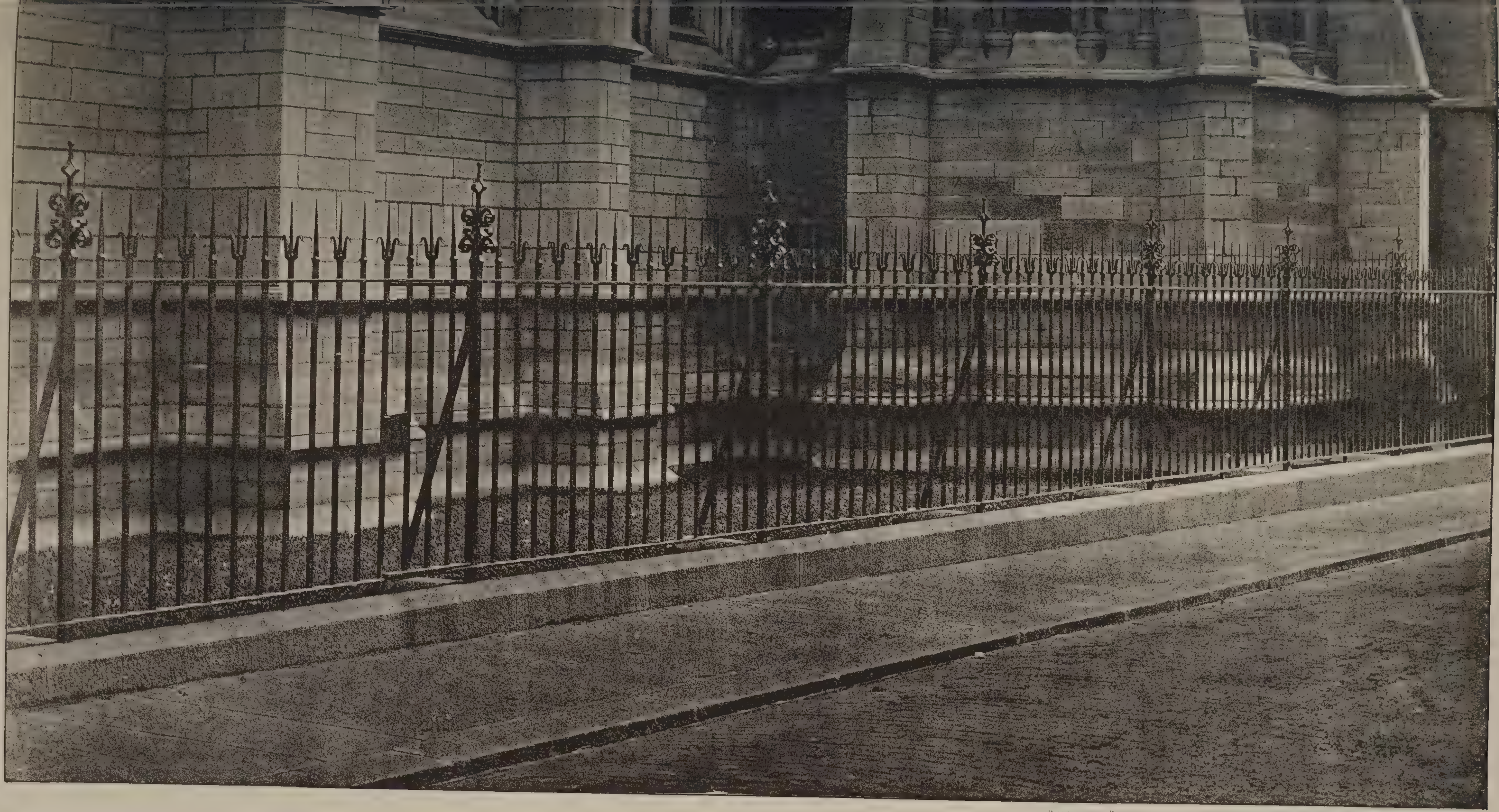

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Cathedral Series, No. 553.—Truro: Baptistery, from the South-West.

The late J. L. PEARSON, R.A., Architect.

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The Architect.

THE WEEK.

By the regulations of the Society of French Artists architectural drawings intended for this year's Salon are to be sent in on April 4 and 5. Each exhibitor is not allowed to have more than two works, but there may be several drawings of each work. Designs which have been prepared for competitions in architectural schools are only admissible in exceptional cases. Photographs may be admitted, but only as giving information respecting a building. Models in relief are also eligible, either as one of the two works or as complementary information. The jury who will examine the drawings will consist of thirty-six architects who are elected for a period of three years. The award of the medal of honour will be voted by architects who have received similar medals together with the jury. Other awards will be accorded by the jury alone. The number of medals will be limited to twelve. Architects who have obtained already the medal of honour or a first medal cannot compete.

The Carriers' Act is almost as comprehensive as the business to which it relates. It is not merely men of the Peerybingle species with a van on a public road, but railway companies, wharfingers, and, in fact, anybody who undertakes to convey goods from one place to another. By one of the clauses of the Act a carrier is not liable for the loss of any parcel which exceeds 10*l.* in value, unless that value has been declared, when the carrier can demand an increased charge. This circumstance should be realised by artists and others who send valuable pictures to exhibitions. A case was tried in the City of London Court on Friday last which revealed the extent of liability. Mr. Grosvenor Thomas, the painter, sent last year to the Münich Exhibition a picture of which the value was said to be 2,800*l.* It was damaged while passing through one of the entrances of the London and India Docks Company. For the defendants it was pleaded that they were exempt from liability, as plaintiff had not declared the value of the painting. Plaintiff's counsel, on the other hand, argued that dock companies were not common carriers, and the failure to declare value did not affect the case. Judge Rentoul, however, found that the company were common carriers, and judgment was given for them with costs.

There must be more than meets the eye of an ordinary observer in the desire of the Building Act committee of the London County Council to alter the arrangements respecting district surveyors. When the proposal was brought forward the finance committee opposed it, on the ground that instead of the change bringing profit it would entail a loss. On January 30 the Council referred back the subject for further consideration, and on Tuesday last a like course was again adopted. In their latest report the Building Act committee state that all they sought was approval of the general principle of payment of the district surveyors by salaries. It is further said that whether the Council decides to pay district surveyors by salaries or not, the prohibition of private practice makes it necessary to rearrange districts so as to provide in every case an income sufficient to attract competent candidates for the office of district surveyor, and in this connection it should be noted that the order of reference to the Building Act committee provides that the districts are to be rearranged by the committee as opportunities occur, so that the average of the fees received may in no case amount to less than 500*l.* per annum. Delay in introducing payment by salaries will, so far as can be seen, result in increased cost, and there is support for this opinion by the fact that, while in 1890 the cost would have been 40,638*l.*, the cost had risen in 1905 to 50,748*l.* There are now eight districts vacant, two districts where the district surveyors are not acting owing to ill-health (one is mentally weak), and six districts where the surveyors are over seventy years of age, so that the present time is an exceptionally favourable one for the introduction of a new system of payment. Mr. Howell Williams considered that the change would lead to an enormous increase in expenditure, and Sir R. M. Beachcroft declared that under the proposed system the district surveyors would be less eager to collect the fees. But that duty need not belong to the surveyors. Collectors at a much lower salary could be employed for the purpose, the district surveyor's duty being confined to a return of the services he rendered.

The establishment committee of the London County Council have again considered how the additional work in the architect's department, consequent on the last amendment of the London Building Act, is to be carried out. It is considered that the most satisfactory arrangement would be to amalgamate the work of providing means of escape in case of fire, now dealt with in two sections of the architect's department. In this manner the work would be concentrated. The new work would then be in the hands of experienced officials who have for years been trained in business somewhat akin in character, rather than by a staff of entirely new officials. It is accordingly suggested that the number of principal assistants in the architect's department be increased by one, and that Mr. C. J. T. Dadd be promoted to the position of principal assistant at the commencing salary of 400*l.*, rising to 450*l.* a year; that the salary of Mr. J. Todd be increased from 350*l.* to 375*l.*, and ultimately to 400*l.* a year; that Mr. G. S. Turner be promoted out of the first class to the position of senior assistant at the commencing salary of 300*l.*, rising to 350*l.* a year by two annual increments of 25*l.* It is proposed that four additional assistants in the first class be appointed in the architect's department, who will be taken from the unestablished staff. Three other assistants who are already employed will be promoted. By the arrangement there will only be an opening for a fourth-class clerk in the architect's department.

The case of Lewis & Salome *v.* Charing Cross, Euston and Hampstead Railway Company decides an important question as to the rights of adjoining owners under the London Building Act, 1894. The defendant company took by agreement (they could not acquire compulsorily) No. 21 Cranbourne Street. They then proceeded to demolish the house in order that they might make use of the site as a station. The plaintiff was the lessee of the adjoining house (No. 22). He alleged that this demolition affected the party wall between Nos. 21 and 22, and claimed that, as the company had not given the notices required in such a case by the London Building Act, 1894, they should be restrained from continuing the work of demolition. The company, on the other hand, argued that premises used for the purposes of a station were exempted from Parts 6 and 7 of the Act relating to the construction of buildings, and were exempted by a section of their special Act from any provision of any Act relating to buildings in the Metropolis. Warrington, J., held, however, that the company thus taking land by agreement were only exempt from the provisions of the parts of the London Building Act relating to construction, but that they were not exempt from Part 8 of the Act, which relates to the rights of adjoining owners; so that if they wanted to demolish a building thus acquired they were in the position of any other owner "desirous of doing a work affecting" a party wall, and must give the required notice.

THE PROPOSED EXHIBITION OF SCULPTURE.

THE London County Council may be considered as fortunate in receiving the petition of the Society of British Sculptors for facilities to hold an exhibition of British sculpture which was executed during the last quarter of a century. In the first place the exhibition, if held in Aldwych or Kingsway, would have the effect of making the vacant ground which has cost so much money better known to the public, and of suggesting that the new roadways are as well adapted for holding exhibitions as Piccadilly or Regent Street. Halls for Salvation Army congresses and the like may have their use, but they do not give rise to associations which enhance the value of the ground on which they stand. An exhibition of art, although only of a temporary character, creates a very different impression.

The exhibition would also suggest a remarkable fact in the history of English art. British artists know that they must not look to the Government either for protection or for support. Whatever may be the predominant party it agrees in that respect with that which preceded it and those which are to follow. In all other countries the case is different. No doubt it is not altogether a disadvantage that with us the arts are free from official interference. The men who form the Government in successive ministries are rarely known as patrons or purchasers of the works of their countrymen. It was said during his lifetime, and has been repeated since, that the second Sir Robert Peel, who was so long Premier, would be an ideal Minister of Fine Arts. It is true he purchased pictures, but they were produced by deceased masters of foreign schools. He was no doubt kind to Haydon in later life, but it did not go so far as obtaining one of that unhappy artist's pictures. When we find that no Government has the courage to give a commission for completing the few mosaics in St. Stephen's Hall, we can infer what little chance there is for the acquirement of pictures or statues by English artists.

Yet it is agreed that public commissions have had generally the effect of inspiring artists to higher aims. For a man is likely to endeavour to surpass himself when he remembers that his work will always be preserved instead of being transferred from owner to owner through the agency of the auction room. If English artists are ever to have that satisfaction it will be owing to the influence of county councils or other corporations, and as the chief representative of those bodies the London Council can do much. For the moment there can be nothing better than the holding of such an exhibition as is proposed. The experiment has, moreover, peculiar interest.

Unless we are greatly mistaken it will hereafter be recognised that during the period contemplated there has been one of those mysterious movements in the art of sculpture which it is no exaggeration to call phenomenal. Historians will hereafter differ about its origin, and several causes may be assigned to explain the effects, but the fact remains that during the last five-and-twenty or thirty years work has been produced which differs in character from the sculptor's work of forty or fifty years ago. In arranging such an exhibition it is difficult to be rigidly definite. But we consider there would be a loss of one influence which would be explanatory if some casts of the work of Alfred Stevens were not allowed to have a prominent place. He died in 1875, but he was as much in keeping with the modern English style as any sculptor now living. We must remember that Stevens's originality was resented, and that if he had adopted the stereotyped treatment which was then approved he would have been financially successful. A man so versatile could have gained a fortune, but he preferred to express new ideas although involving slow martyrdom to himself.

The Society of British Sculptors can be trusted to select representative examples of the art. We hope, however, they will not be indifferent to those which embellish buildings. They may not be as numerous as is desirable, but among the characteristics of modern efforts are qualities which are allied to those demanded by architectural sculpture. Repose, variety of contour, symmetry, recognition of material which we see in figures and groups are adapted to harmonise with buildings. The peculiar decorative character is sometimes suggested on a small scale when pedestals, like those employed by the late Onslow Ford, are used to support statuettes, and which are designed to correspond with the figures instead of being copied from commonplace compounds which could be produced by machines. Architectural sculpture in this country has had for a long period many prejudices against its use. In the old castles the art was not required. For, as Flaxman says, if the walls were sufficiently strong to resist battery or shot, and contained retreats to secure the inmates from danger, their purpose was attained. When in more peaceful times architectural art required balanced compositions in painting and sculpture, foreigners alone were employed. No other country in the world offered so many commissions to strangers, both sculptors and painters, as England from the time of Charles I. to George I. To make matters worse neither the painters nor the sculptors were of the highest class, and thus examples were placed before English artists which were better adapted for avoidance than for imitation.

Brief as is the period which is to be exemplified, we suppose it will be necessary to comprise works by artists who are no longer in this world. An exhibition of modern sculpture from which the few works of Lord Leighton were excluded would lose much of its significance. His figures are not to be taken as evidence of a belief on his part that he could if he liked be as successful in sculpture as in painting. When he said that Greek sculpture mirrored at its best the mind of Greece, he expressed a truth which could be extended, for sculpture in other countries was also expressive of national characteristics. Perhaps it will some day be accepted that as in the Elizabethan age the English mind was mirrored in the drama, at the close of the nineteenth century sculpture expressed the finest qualities of the English mind. Leighton's sculpture does not correspond with his paintings. But it suggested that it was not necessary to employ gods and goddesses in order to express the power of the art. Onslow Ford showed his competence in most classes of sculpture, and in that way he must be reckoned as one of our principal masters. He was trained in foreign studios, and therefore it cannot be said of him that he carried on English traditions. His works do not recall any of his predecessors in the Academy. The members who believed they were following Classic precedents would have been aghast at seeing so much attention bestowed on the trappings of the camel which bears Gordon. But by no other means could the services of the soldier in Africa be suggested. What must be regretted is that the capability of Onslow Ford to produce exquisite statuettes was not recognised by those who professed to be art manufacturers. For if reproductions of his works were as obtainable as those of French sculptors, there can be no doubt that the art would be as much appreciated in England as in France. It is not to the public statues in the streets that Parisians owe all their liking for sculpture. The statuettes in the windows of the bronzists also exercise an influence which deserves to be recognised.

Another sculptor whose works would be attractive was the late Harry Bates. He could not resist the old glamour of Greece. But he treated classical subjects as he imagined them, and not as austere precedents dictated. His *Homer* is recognised as his most important work. But it should be remembered that he had not reached his fortieth year at his death, and if he had lived there is no doubt that he would have enriched his country with still nobler masterpieces.

We need not refer to living sculptors. On them we must rely, and it is no exaggeration to say that some among them are competent to produce works of which the reputation will not be confined to the present time. But the structure which will be employed for the exhibition of the collection will have to be very different from any now in use if justice is to be done to the artists. Long lines of statues and busts standing on boards covered with red baize may surprise for the moment, but soon become tiresome to the spectator. The members of the Society will no doubt be able to offer suggestions. But our love of regularity and mechanical disposition have long made sculpture suffer in public esteem. What is desirable is an arrangement like that sometimes adopted in Paris, by which the works shown are enhanced by draperies, vegetation and other auxiliaries, to relieve the eye from the excess of white.

SCOTTISH SCHOOLS.

We are told by Macaulay that Fletcher of Saltoun, the Scottish patriot, was so disgusted by the ignorance and lawlessness of his poorer countrymen, he proposed that many thousands of them should be sold as slaves. The overseers' whips could alone, he thought, reclaim them from their idle and predatory habits. Fortunately for Scotland such severe measures were never carried out. By order of William III. a Parliament was held in Edinburgh in 1696, which, after declaring how prejudicial was the absence of schools in many places, decreed "that there be a school settled and established, and a schoolmaster appointed to every paroch not already provided, by advice of the heritors and ministers of the paroch." The school was to be a commodious house, and the master's salary was not to be less than 100 marks yearly (5*l.* 11*s.*) nor more than 200. The education which followed has, as Macaulay says, "done more for the bleak and dreary shores of the Forth and the Clyde than the richest of soils and the most genial of climates had done for Capua and Tarentum."

The Act was compulsory in its enactments. But, as was to be expected, the school buildings varied in character according to the wealth of the parishes. Hugh Miller describes the grammar school of Cromartie in which he was taught. He tells us that it was a "low, long, straw-thatched cottage, open from gable to gable, with a mud floor below and an unlathed roof above; and stretching along the naked rafters, which, when the master chanced to be absent for a few minutes gave noble exercise in climbing, there used frequently to lie a helm, or oar, or boat-hook, or even a foresail—the spoil of some hapless peat-boat from the opposite side of the Firth." If in a prosperous town like Cromartie the school was of so primitive a character, in rural districts a still humbler standard would serve. But a vast number of able men obtained their preliminary education in schools of the kind.

The days for such arrangements are now vanished. Scotland has its Education Department that will insist on uniformity in the arrangements of school buildings, and, what is no less remarkable, they will have to be constructed on similar principles to those adopted in England. The official rules which have just been issued are therefore deserving of some notice, although English architects are unlikely to receive commissions from the north—Scotchmen do not as a rule believe in reciprocity.

In Scotland, as in England, a quarter of an acre of site will be necessary for every 250 children. It is also stated that except in very small schools there should be separate playgrounds for boys and girls with separate entrances. Another English rule is that for large departments containing from 350 to 500 places there should be a central hall with the classrooms grouped round it. The Scottish rule relates to schools of 500 and upwards. A school with 350 places or more would therefore be considered a small school, and could have a wide corridor instead of a hall. In both countries the floor-space agreed on is 3½ square feet for each scholar "likely to occupy it at one time, but not less than 1,000 square feet in all." The English rule is that a schoolroom should never be designed for more than 100 children. In Scotland the number is eighty children, and the width should not be less than 16 feet or more than 25 feet. As regards classrooms, the minimum size allowed in Scotland is 18 feet by 15 feet. The Scottish central halls are to have wood-block or similar flooring. The principal entrances should never be through the cloak-room or directly into the schoolroom or classroom. The number of lavatory basins is not defined in England, but in Scotland the proportion is one to every twenty-five scholars.

The Scotch rule as regards lighting is that any space beyond 25 feet from the window wall cannot be regarded as adequately lighted. The English rule is 24 feet. The sills of main lighting windows should in the north be placed about 3½ feet and not more than 4 feet above the floor. Another rule is that "in each classroom the glass area should be from a quarter to one-fifth the area of the floor, and should not be less than one-sixth." It is also said that "the upper sashes should be hinged to fall inwards and form a hopper, with side cheeks for summer ventilation." Suitable blinds must be provided where necessary in Scottish schools. The steps of staircases in English schools should be about 13 inches broad; in Scotland each step is to be not less than 12 inches broad. In England the sizes of the inlets and outlets for ventilation are to be adapted to the method employed. The Scotch rule is that "inlets should provide a minimum of 6 square inches of net airway per child and outlets a minimum of 4 inches." The use of open grates is allowed in Scotland. They "should be of the ventilating pattern, having an air-chamber with fresh air inlet direct from the outside, and openings from same having regulating valves or sliding gratings for delivering the warmed air into the rooms. Proper means of access for the purpose of cleaning the air-chambers should be provided." In describing sanitary arrangements the Scotch rule is in favour of single closets of the wash-down pattern rather than the trough system. The number of closets required is generally less in Scotland. Soil-drains inside the building are not allowed in England. But where they are unavoidable in Scotland it is stated that they "should be constructed with heavy cast-iron pipes, carefully caulked and jointed with lead, and having concrete blocks under the faucets."

In English schools the usual length of the dual desk employed is 3 feet 4 inches. That length is to be used only for the higher standards in Scotland, with 3 feet for the lower standards and 2 feet 6 inches for the infants. It is also said:—"No desks should be more than 9 feet long. In a schoolroom providing for more than sixty children there should not be more than four rows of long desks or five rows of dual desks. In an ordinary classroom five rows of long desks or six rows of dual desks may be provided." In England an infants' classroom is not to accommodate more than sixty infants; in Scotland the number is to be fifty for classrooms and eighty for schoolrooms; the width is not to be less than 16 feet. There is no recognition in Scotland of a reduction to 9 square feet for infants. The 10 square feet of floor space is the minimum, and it is said that a larger area should be provided whenever practicable. Additional directions relating to drawing classrooms have been given, viz.:—"The whole available wall space of the room from a height of about 3 feet above the floor up to a height of about 7 feet from the floor should be covered with linoleum or have the surface suitably prepared for the purpose of chalk drawing. Where no special drawing classroom is provided, the walls of at least one of the ordinary classrooms should be prepared as above described."

The rules relating to higher-grade schools in Scotland are more precise than those adopted for England. The classrooms are to be furnished with single or dual desks. Single desks should be 2 feet long, and where they are used an area of about 16 square feet per scholar is to be allowed. With dual desks the minimum will be 13 square feet. The laboratory accommodation must be sufficient to provide at one time for the largest class in the school. Generally there is to be one laboratory for chemistry and one for physics. But whenever the teaching staff is limited one room may serve for both. As 30 square feet of floor space should be afforded for each scholar the minimum size of a laboratory will therefore be 600 square feet. But it is desirable they should be larger. The laboratories are to be fitted with suitable tables, well lighted, and they should be properly supplied with gas and water. Sinks, cupboards and fume closets should be installed in chemical laboratories. A balance-room may be provided. Higher-grade schools may also have a lecture-room fitted with a demonstration table furnished with a gas and water-supply, with a sink as well as a fume closet. The lecture-room should have an area of about 750 square feet. If a separate lecture-room is not provided, the classrooms used by third and fourth-year scholars could be fitted with a simple demonstration table. "A drawing classroom for the more advanced drawing is desirable. It should provide 30 square feet of floor space for each scholar; the best size will be a room with an area of 750 square feet. If suitably lighted, the hall would answer for this purpose. The walls should have a portion of the surface prepared for chalk drawing." The rules for the teacher's house correspond with those of England, except that in Scotland a bath-room is necessary.

The Scotch Education Department announce that loans may be refused unless the whole cost of the school, exclusive of site, legal expenses, extra rooms and residence, is kept within the sum of 12*l.* per child. Additional allowances will be made for central hall, and rooms for drawing, chemistry, cooking, &c., varying from 15*s.* to 20*s.* per square foot, and for workshops from 10*s.* to 15*s.* a square foot. The cost of a master's house consisting of parlour, kitchen and three bedrooms is not to exceed 800*l.*, and the caretaker's house (which is to have parlour, kitchen and two bedrooms), 500*l.* It is also pointed out that all building contracts should contain a clause that no claim for extras will be even considered unless the work has been ordered in writing by the architect, and the order bears the counter-signature of the clerk of the school board.

The differences between the English and Scottish regulations are not to be ascribed to any peculiar conditions in either part of the country. The English rules appeared last July, while those relating to Scotland were issued a few weeks ago. We may therefore conclude that the Scottish rules are inspired by the additional experience of six or seven months in schools, and may be taken as the latest decrees of the education authorities. In a short time nobody would be surprised if similar changes became necessary in England.

The Additions erected for the use of students at the York School of Art have been completed. The rooms are in the old north galleries, which have had another storey added. On the ground floor there is a lecture room, elementary room, crafts room, architectural room, life modelling room, general modelling room and offices. On the upper floor is the antique room, painting room, studio and ladies' life classroom, and life classroom. By day the rooms are lighted by large plate-glass windows and at night by electricity. The work has been carried out from the designs of Mr. A. Creer, city architect.

SOME ILLUMINATED MANUSCRIPTS OF CONTINENTAL EUROPE.*

I PRINTED some years ago a lecture delivered by me at Cambridge, as Sandars Reader to the University, "On English Illuminated Manuscripts," based upon some volumes in my own library. I will now endeavour to treat similarly a selection from the same source of specimens of the art of miniature painting in continental Europe from the eleventh to the fifteenth century. My object is not so much to instruct as to exhibit. If it were conceivable that I could receive each and every one of my present audience in my library, and endeavour to inflame their curiosity in regard to the history of miniature painting in Europe, there are certain books that I should take down and turn over. I hope to treat my present audience in a similar manner, only that, instead of taking down the books themselves, I shall show on the magic-lantern screen specimen pages from those books, in the hope that even so meagre a sketch may arouse curiosity and a desire to pursue the subject further. In this connection I should mention that Dr. Warner, the eminent head of the Manuscript Department at the British Museum, has recently rearranged the exhibited manuscripts in such a way that the passer-by may see a series of fine specimens in sequence of countries, beginning with the Byzantine manuscripts on the left, as you enter, and passing on by English, French, Flemish and Italian, till, at the end of the room, you have seen something considerable in illustration of all the great European schools of miniature painting.

Like Dr. Warner, I propose to begin with a Byzantine manuscript, written and painted at Constantinople in the eleventh century, when Byzantine art reached its highest perfection. I will next show you, by a few specimens, how, in the twelfth century, not without Byzantine influence, new schools of painting rose in Italy, Germany and France. After that we will concentrate our attention on France, the real centre and home of the art during the thirteenth, fourteenth and fifteenth centuries, and I will show you how, in that delightful country, successive kings and queens, warriors and bishops, abbesses and princesses, however much they fought among themselves on other questions, all united in one common belief, namely, that no pains were too great, no sum of money too vast, to expend on the acquisition of first-rate books of illuminated manuscripts.

Let us then open the first page of the heavy quarto volume which, written in the eleventh century, the time of our Conqueror, Duke William of Normandy, after having for many generations been the book from which the lessons were read by some Greek priest in a Constantinople church, found its way into the library of the Duke of Hamilton, and thence, by purchase of the German Museum, to Berlin, in 1882. Happily the German Government was seized with a fit of economy, and, under the influence of Prince Bismarck, who had no soul for illuminated manuscripts, and thought they had spent too much money on the Hamilton Palace books, they dumped this invaluable volume and several others on the London market, with the result that it now has taken its place among my hundred best manuscripts.

All the pictures I have shown you from this Greek manuscript display what I call the Persian carpet style of decoration, abounding in cobalt blue, I suppose because lapis-lazuli from which it was produced was common and cheaper in Eastern than in Western Europe. Witness my next slide taken from a real Persian manuscript in my collection of the year 1410, and written at Shiraz or Ispahan. Did the Persian artist derive from Constantinople? Or did both Byzantine and Persian derive from some still earlier development of Asiatic art? I think it is not unsafe to conclude that the Byzantine figure drawing was of classical origin, while the ornamental frames by which the pictures were surrounded were in the main inspired from the East. From whatever sources their style was derived, there is no doubt but that Byzantine art exercised a strong influence over the rising schools of Germany, Italy and France.

Remembering that the Greek gospel-book which you have just examined was of the eleventh century, and that Byzantine art had been in a state of continuous, though often interrupted, development during the preceding five or six centuries, and that some, at all events, of their books and other artistic productions had strayed over into the semi-barbarous countries of Western Europe, let us see what Germany, Italy and France were doing in the period immediately following. Deep in the forest wilds of Bavaria is the ancient monastery of Ottenbeuern. Here, in the twelfth century, the monk, Rheinfried, wrote for his abbot, or perhaps for his patron, Alexander, a "Collectarius," or collection of prayers, and thoughtfully put in for our benefit a portrait of himself, holding the book in his hand.

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* A paper by Mr. H. Yates Thompson, F.S.A., read before the Applied Art Section of the Society of Arts on Tuesday, February 20.

But while Rheinfried was working away in his rude manner at the Collectarius for the monastery of Ottenbeuern, what was going on at a more famous monastery in South Italy, that of Monte Cassino? Here the pains and industrious art of the Benedictines raised up a school of book decoration which, beginning in the days of Justinian, reached its climax of artistic excellence about this time. For its figures this Monte Cassino school owed everything to Constantinople, but its ornamental work is a new development. Unfortunately I cannot show you any of their figure drawing. Out of Italy, indeed out of the Monte Cassino library, these books are so rare that I believe my volume is almost the only specimen in England, and from it the figure picture, probably of the Crucifixion, has been, sad to say, extracted by some inconsiderate person.

We now reach the rich distinctive period of French miniature painting. Nearly two hundred years have passed away, years of steady development, and we now come to the great Antiphonary of the convent of Beau Pré, six giant volumes, which for near three hundred years lay, three on either side of the chancel, in the convent of the nunnery, the alternate verses of psalm and anthem rising in turn to the groined roof, and subsequently doubtless to the Heaven above. These books, six in number, came somehow to London about thirty years ago. Three of them were sold at Sotheby's, and the buyer was Professor Ruskin. From his estate they have lately passed into my library. Mr. Ruskin asked the auctioneer where the other three were; he was told they had been burnt in a recent fire. The three that remained, our three, were among the greatest treasures of Brantwood. But Mr. Ruskin with all his skill and enthusiasm never discovered where the convent of Beau Pré was. And this was no wonder, for there were scores of convents of the name of Beau Pré. I will now explain the chain of evidence by which the book has revealed its origin.

I should premise that this Antiphonary is unique among books of the sort, in that the first page, in a contemporary hand, tells us (1) the name of the convent, "De Bello Prato," or Beau Pré, and (2) the date of the book, 1290. The whole inscription is pleasing:—

> Liber ecclesie beate Marie de Bello Prato,
> qui scriptus fuit anno ab incarnatione Domini
> millesimo ducentesimo nonagesimo.
> Si quís illum abstulerit, anathema sit.
> Si quis illum fideliter et honeste tractaverit et
> servaverit, benedictus sit. Amen.

Let us hope the present and all future owners may merit the blessing and not the curse.

But this does not carry us in the history of the book beyond the certainty of the date and the name of Beau Pré. The next page gives the opening of the service, and in the margin are two little figures with names inscribed "Domicella de Viana" and "Clementia." And this is the page that reveals the secret. Who was the Domicella de Viana and who was Clementia? We set to work to discover among all the Beau Pré convents one which should be connected with a place named Viana. What was my delight when I found in East Flanders, on an old map, not far from Ghent, and two or three miles from Gherartsberg, or Grammont, a convent of Beau Pré, and about five miles from it a village and château of Vianen. I at once wrote to Father Van den Gheyn, the excellent chief of the manuscript department in the royal library at Brussels, to ask him if he knew anything of the convent of Beau Pré and of the lady of Vianen. In reply I learned that this convent of Beau Pré, of the Order of St. Bernard, was founded in 1228, and was occupied by Cistercian nuns till 1795, when the French Republic came down upon them, drove out the nuns and sold the convent and its lands by public auction. The "Domicella de Viana" was a certain Marie de Bornaing, wife of the Seigneur of Vianen, a little country town near Beau Pré, whose family is recorded as having been benefactors of the convent on many occasions, especially making frequent presents of firewood, and there is no moral doubt but that this Marie is the lady who gave them this splendid Antiphonary, as the text says, "Pour Dieu et en aumosne à l'Abbaye." Marie de Bornaing, or De Viana, had also a niece, named Clementia. What is further most remarkable about the books is that they are illuminated in the highest style of the art of the period — probably in one of the neighbouring towns, Courtrai, Arras, or Douai. I have inquired in Brussels, Paris and the British Museum, and I can find no French Antiphonary of this great size, of any period, so finely illuminated.

So delighted was I by these discoveries that I made an expedition to Grammont, this country town of East Flanders, about two hours railway journey from Brussels, and drove out to Beau Pré, two or three miles, to see for myself the first home of my Antiphonary. An old white Flemish mare took us in a rural brougham along a causeway with green fields and poplars on either side, and deposited us safely at the convent gate. For strange to say in the whirligig of time the convent, after being owned by Cistercian nuns for 550 years, and by a private family for 109 years, became last year a convent again. A party of some thirty Sœurs de Nazareth from Montmirail in France early last year, being turned out of their French home by the legislation of the present French Republic, had taken refuge in Beau Pré, having bought the house and grounds a few months before our visit. The lady superior was charmed to hear something of her holy predecessors and their Antiphonary, and showed us most kindly all there was to see. We found no vestige left of the old thirteenth-century nunnery except some wells and half a tombstone, engraved with the effigy of half an abbess. The original building had all been destroyed by fire in the seventeenth century, and now but for the well heads and the fragment of the abbess's tomb, the only remnant of the old foundation of 1228 is the Antiphonary which we are discussing.

Finally, we have a portrait of the monk, Johannes, who wrote some portion at all events of the Antiphonary. It is not at all improbable that this Johannes was identical with a certain Johannes of Cambron, the mother house of the Beau Pré convent, and situated only sixteen miles away, for we find his name and address as the writer of a volume now at the British Museum; but this requires verification. If it be so, we have in this Antiphonary a most unusual and delightful series of particulars and portraits, including the date of 1290, the name and likeness of the donor and her niece, those of the abbess and her nuns, and finally of the scribe who wrote, at all events, the third volume. I wish we had also that of the artist, especially of the comic painter who adorned many of the pages with little caricatures, most of which have unfortunately been expunged by some careful abbess who objected, I suppose, to any comic element being introduced in the serious Antiphonary. I give a specimen of one of these little scenes, that of a fish-stall in some French-Flemish town, spared possibly because the fish was a holy creature, the emblem of our Saviour, and the subject and means of many miracles, from the days of Tobias, Josiah and St. Peter, down to the time when St. Francis of Assisi, and St. Anthony of Padua, preached to the fishes. Anyhow, we have before us as realistic a scene of market life in the year 1290 as is to be found anywhere, and this is not surprising, for French Flanders, of all the countries of Western Europe, was perhaps the headquarters of the grotesque in miniature. The subject is so important that I shall show you a few examples of the art as seen in the adornment of another of my books, the "Verdun Breviary," a book produced probably not far from Metz, for Marguerite de Bar, the abbess of Verdun. The family of De Bar, a famous European ducal family in its day, connected with most of the royal houses, had for its arms two fish (the maigre or bar of the menus of the modern table d'hôte), and almost every capital in the Breviary has emblazoned within it either the arms of the lady's own family or those of England, France, Navarre, Evreux or some one of the great houses with which the noble abbess was connected. But the little scenes of Bible history, daily life or comic caricature, of which I shall now show some specimens, are the great distinction of the book.

We have seen something of the serious and comic art of the thirteenth century. Let us now dip for a moment into the fourteenth century, and turn over a few pages of a Prayer-book which was prepared for a queen, whom I have not yet been able to identify. Here she is depicted on the first page, coifed and crowned, with her Book of Hours lying on a stool before her, while her chaplain elevates the Host. This is the serious side of her religion. But the services were long and the Latin prayers tedious, and for her amusement she had little hunting scenes depicted at the bottom of many pages. The lady was evidently fond of field sports, between twenty and thirty pages being devoted to her exploits in pursuit of rabbits, ducks, stags and wild boar. Not only did this anonymous queen delight in the sports of the field; she was also fond of little stories, of a more or less moral nature, in which figured knights and ladies, monsters and monks, princesses and magicians. One of these stories, quite a moral one, is illustrated by five pictures, and a little legend in red ink explains each of the five. Though the solemn prayers above are in Latin, the legend below is in intelligible French. The story tells of the adventures of Theophilus. This was a French legend of Eastern origin, and there were several versions of it. It is told in glass in the cathedral of Beauvais, and in stone at Paris in the tympanum of one of the doors of Notre-Dame.

We have glanced at two grand periods of miniature painting—that of the Byzantine predominance in the eleventh and twelfth century, and that of its early French development in the thirteenth century, with some of its characteristic serious and comic phases. I will now carry you on to the fifteenth century, when perspective began to be thoroughly understood, and the art of book illumination in France reached its highest point of artistic excellence. It is singular—when all is considered it is almost miraculous—that through all the wars of France, the Crusades and the civil commotions that raged throughout these stormy centuries, the delicious art of miniature painting went on undisturbed, sometimes in the quiet convents, sometimes in the studios of lay artists in Paris, Cambrai, Metz, Rouen and other towns of the provinces. Never was there a more troublous time than the first half of the fifteenth century. The Black Prince had sorely tormented them in the fourteenth century. But with the fifteenth came the still more terrible Henry V., the bloody conquest of France by the English, and the still more dreadful episode of the liberation of the territory, initiated by the Maid of Orleans, and finally effected by a group of French warriors, of whom naturally much less is said in our patriotic English histories. It is a strange circumstance that throughout the Hundred Years War the generals and admirals on both sides had the time and taste to acquire the most lovely books. The Duke of Bedford and Gloucester, the Admiral Coëtivy and the Bastard of Orleans, and what is still more surprising, the Earl of Shrewsbury, the renowned John Talbot, had exquisite Books of Hours, for which their affection was so great that they frequently carried them about with them to their sieges and pitched battles. I have four such in my library, and will show you pages from two or three of them.

Perhaps the most renowned of the commanders of the time was Jean Dunois, the Bastard of Orleans, not a bookish man, as his statue still preserved in his castle of Chateaudun shows him to us.

The little volume contains three portraits of the hero. In one he is praying to the Virgin; and it is from this contemporary picture that the well-known portrait by Montfaucon has been taken. I wonder sometimes that in a book belonging to so intimate a friend of Joan of Arc no notice or mention of her appears. But we must remember that poor Joan was burnt at the age of nineteen—surely the youngest woman who ever attained to so wide a fame—and the Bastard lived to a good old age and died in his bed full of honours. So perhaps he forgot how much he owed to the heroic maid, who now, after 500 years, is to be made St. Joan.

Dunois died a natural death, as I have said, but such was not the fate of John Talbot, first Earl of Shrewsbury, to whom my next volume belonged. He was killed in battle near Bordeaux, after a lifetime of campaigning, at the age of sixty-five. This book was prepared at Paris at the time of his second marriage, a similar volume being presented, very probably by the Regent Bedford, to his bride, Margaret Beauchamp, daughter of the Earl of Warwick. The books were made long and narrow for convenience of carriage on horseback, like pistols in a holster. The portraits of the bride and bridegroom (Talbot was about forty-five at the date of this, his second marriage), on the first page, represent them kneeling in prayer to the Virgin; their patron saints (St. George and St. Margaret) stand beside them, and the lower part of the page is covered with arms, mottoes, garter, &c., the borders being generally of marguerites or daisies in compliment to the name of the bride. The tradition is that this volume was picked up on the field of battle after Talbot's death. It certainly contains prayers of a special nature, promising safety to whomever has the book in his possession, and there is a pretty prayer, possibly in Talbot's writing, which runs as follows:—

Jesu, whom ye serve dayly
Upon your enemys giff you victorye
Of the holy crosse the vertu
Your gode fortune alway reneu
Oure Ladye and Saynt Gabryell
Geve you long lyffe and gode hele
And Saynt George the gode Knyght
Over your fomen geve you might
And holy Saynt Kateryne
To your beginnings send gode fyne
Saynt Christofre boteful on see and land
Joyfully make you see England.

The opening scene of Margaret's book is just like John's, but smaller and not quite so much battered, and the lower part is identical, except that the arms of the two families have been erased, probably by someone who became at some time improperly possessed of it. A careful scrutiny against the light shows that these also were identical. Margaret's book got into a convent in Luxembourg, the monastery of Epternach, in the seventeenth century, but we have no other trace of its adventures during the 470 years of its existence. The wonderful thing is that, after so many years of separation and wandering, these two wedding gifts, for that is what they probably were, should find themselves once more in one another's company on one of my bookshelves.

It has often been said that a very entertaining book might be written on the romance of book collecting. The adventures of the two Talbot Prayer-books, one lost on the battlefield of Castillon, the other long buried in a German convent library, and both happily reunited in the twentieth century, may seem extraordinary enough. But my next story, which is also the last with which I shall trouble you, is, I think, still more remarkable.

Just three years ago in Wellington Street, Strand, not 500 yards from this hall, there was exposed for sale among the ordinary victims of the auction-room a large square volume containing a manuscript of the early part of the fifteenth century. It contained in a French translation the second half of the well-known History of the Antiquities of the Jews by Flavius Josephus. It was bound in a solid red morocco binding of the eighteenth century, such as clothes in the British Museum many of the volumes which formerly belonged to Sir Robert Harley. It had one fine illuminated miniature at the beginning, and had had twelve pages, those at the beginning of each book of the history cut out with a sharp knife, cut out evidently in a hurry, for the wicked person who thus maltreated the book in his or her haste had cut in many cases the adjoining leaf as well as that which was to be extracted. Otherwise the manuscript was a well written book of the period and nothing more. There were, however, certain erasures, places where writing had been scratched out with a sharp instrument. Especially there was one such at the back of the sole surviving miniature, in which a trained eye could just detect a portion of the signature of John, Duc de Berri, the brother of King Charles V., the book-loving king of France, who founded the National Library of France. Now the Duc de Berri was perhaps the greatest bibliophile that France ever produced, not excepting the Duc d'Aumale himself, and I was familiar with his writing because he was always careful to write his name in his books, and I was already the possessor of three other volumes which had belonged to him. So I felt that the book was probably in some way or other remarkable; it was at all events interesting from its provenance, and I got a judicious friend to go and buy it for me at the auction, which he accomplished for a very moderate price. Imagine our joy when we got it home. The one picture, though damaged, was a stately production. King Herod, the *beau idéal* of a despot, has just entered the Holy City; followed by his knights and himself superbly mounted, he rides through ranks of slaughtered Jews, past the Piscina Probatica, the pool by the sheep market, in which are seen a number of sick people, and approaches the gate of the Temple enclosure. In the background is an altar for the restored worship of Jehovah. The twisted columns which enclose the altar are identical with those which Raphael subsequently introduced in his famous painting of St. John at the beautiful gate of the Temple, and which Jean Foucquet, the celebrated French painter, the head of the French primitifs, more than once represented in miniature, especially in the Book of Hours of Etienne Chevallier, which is one of the precious monuments of art preserved in the magnificent Château of Chantilly, and for forty pages of which the Duc d'Aumale gave 10,000*l.* It subsequently formed part of his munificent gift to the French nation. The occurrence of these twisted columns in the Herod picture, as well as the general style of the drawing, made us think at once of Jean Foucquet as the possible painter. But the writing in our manuscript was nearly a century earlier than the date of Foucquet. How was this to be accounted for?

We next turned to the last page of our volume, where a good deal of writing had been obliterated. In the top right-hand corner were the final words of the book—we read, "Cy fine le livre de Josephe contenant en tout XXVII. livres historiaux." "Here ends the Book of Josephus, containing in all twenty-seven historiated books." A further inscription at the bottom of the page stated that in this—the second—volume there were thirteen illuminations. Now in my second volume, as a matter of fact, there was only one, that of King Herod. Twelve there remained to be accounted for in the second volume and somewhere or other there should be found the first volume with its fourteen pictures. Two conundrums were thus proposed to us. First, where was Vol. I.? Secondly, where were the twelve pages with their pictures which were missing in Vol. II.? The blank page where some writing had been obliterated revealed the mystery. You may know that there exists in chemistry a substance dear to book collectors, and known as hydro-sulphuret of ammonia. It is made available as a liquid, and with a camel-hair brush and a careful hand you moisten delicately the place on the vellum where writing has been scratched out, and then, as by magic, the erased writing reappears. In the present case two inscriptions came into plain view, which we can read on the photograph taken at the time, though in the three years that have elapsed since the photograph was taken they have almost disappeared again. The inscriptions run as follows:—The first is in the handwriting of the Duc de Berri, and says simply, "Ce livre est au Duc de Berri," and is signed "Jehan." The second, a little more difficult to read, is as follows:—"Et de presant à son fiz le Duc de Nemours, Comte de La Marck," and is signed "Jacques." Underneath is a further inscription which has not been erased, "Pour Carlat." Now these revived inscriptions tell us most of the history of the book. The first shows that it was written for the Duc de Berri, and as he died in 1417 it must have been written before that date. The second tells us that it belonged subsequently to Jacques d'Armagnac, who was beheaded by Louis XI. in 1477. Our next discovery was that the first volume of the book is in the National Library of France, and has at the end exactly similar inscriptions. But the revelations do not stop here. After the two inscriptions in Vol. I. occurs another inscription which does not occur in Vol. II., and which is in the handwriting of a certain François Robertet, secretary of Pierre de Beaujeu, Duc de Bourbon, and states that the first three miniatures (we are speaking of Vol. I.) were by the artist of the Duc de Berri, and the rest by the good painter and illuminator of King Louis XI., Jean Foucquet of Tours. It is therefore established that the whole book was written, and the first three paintings in Vol. I. made for the Duc de Berri; that the book then descended to his grandson, the Duc de Nemours, and was kept by him in his castle of Carlat (Carlat was on a high hill in the Department of Cantal, not far from Aurillac), that Jacques d'Armagnac had the paintings in the first volume, and presumably also in the second, completed by Jean Foucquet; that when Jacques d'Armagnac was besieged and made prisoner in Carlat by Louis XI., and executed in 1477, the book became the property of Louis XI., and when he died Vol. I. fell to his only daughter, Anne of France, and her husband, the Duc de Bourbon, whose secretary described it; that the second volume somehow got separated from the first and wandered to England, where after various vicissitudes it found its way into the library of Colonel Townley, at the end of the eighteenth century (whose book-plate is on the first page), and was sold at the sale of his library in 1814. In the catalogue of that sale, when it was sold for 43*l.*, it is stated to contain numerous miniatures. The twelve missing leaves therefore had plainly been abstracted subsequently to the year 1814, and one question only remained to be solved, where were those twelve pages now? I was sanguine enough to hope they might be found, and in an account which I printed of my little discoveries, I appealed to all librarians and collectors, in short to all the bookworms of the world, to look for them, and let me know in case they found them. Would you believe it, within two years Dr. Warner, of the British Museum, discovered ten of them in an album in the King's library at Windsor Castle. At the risk of tiring you to death, I have gone through this little history, and I conclude this paper with an appeal to my hearers, if ever they meet with two manuscript pages from the History of the Jews, one containing a large picture, and one a small one by Jean Foucquet, they will let me hear of them, and merit the thanks of all good bibliophiles.

INDIAN AND MODERN SCULPTURE.

In his second and concluding address on sculpture, Mr. W. R. Colton, A.R.A., made some interesting comments on the art of India, a country that he has recently visited, but the essential feature of the lecture was its outspoken and unsparing criticism of the tendencies of certain sculptors of the present day. He was enthusiastic about the sculpture in the famous Isle of Elephanta, in Bombay Harbour, and described it as some of the most wonderful work of its kind in the world, full of movement and research for form and intensely decorative. From this the descent to the modern Indian sculptor was great indeed. His aims were petty and he had little sense of proportion, although he retained something of the old feeling for movement and for the texture of flesh. Mr. Colton, according to the *Morning Post*, referred to the general similarity of the ideals of the Greek, the Renaissance and the greater modern French sculptors, and complained that now the master minds were displaced and that we were called upon to worship a brazen serpent. A wave of popularity had recently placed sculpture on a new basis, and much notice was given to it in the Press, which formerly only referred to the art when the exhibitions were nearing their close. Unfortunately the most wonderful work of modern France, produced fifteen or twenty years ago, had given way to another kind of work against which the students should be warned. If they heard its qualities trumpeted from the housetops they might be sure that it was the firework and not the jewel that was being praised. Labour in some of this sculpture was represented by frightfully disproportionate hands and feet, and a misshapen monstrosity had been made to represent a mighty author. In support of his warning against what he regarded as false gods Mr. Colton quoted a passage from a recent address of Sir Edward Poynter's, in which the President said that "he failed to see that to adopt the pattern of design or colour or the startling methods of execution of some painter in vogue showed one whit more originality in the imitator than to follow in the steps of the great men of the past. Such apeing of eccentricity might be good for the comic journals, but for serious art never." A modern and a curious phase of the movement, said the lecturer, was that for mutilation in sculpture. It seemed that to lop off a leg or two legs or an arm and a leg greatly enhanced the artistic value of sculpture. Well, it certainly had one quality—it left more to the imagination, like the smoke of the battle painter. One genius had even gone further and split off a piece of a face. This was not a joke; it appeared in a recent exhibition of high class, where a considerable proportion of the sculpture was more or less mutilated, and one poor female had the appearance of having been through a bad railway collision. "But seriously," said Mr. Colton, "is not this the hypocrisy of art—a juggle to deceive the observer? Sculpture should not lend itself to the absurd or grotesque; it should be the expression of an idea." Mr. Colton spoke of the fountain as perhaps the finest expression of decorative sculpture, and he illustrated with the lantern screen a number of examples of fountains in England and on the Continent. Among them were two at Versailles, several in Rome, and others at the Alhambra, Pompeii, Cambridge and Lyons. Dalou's Paris fountain "The Triumph of the Republic" was also illustrated.

The Annual Meeting of the Photographic Survey and Record of Surrey will be held in the Public Library, Kingston-upon-Thames, on the 10th inst., at 3.30 P.M.

The Carnegie Dunfermline Trustees had at their disposal last year a total of 34,610*l.* 2*s.* 7*d.* The expenditure fell short of this amount by 1,992*l.* 14*s.* The principal items were the improvements on Pittencrieff Park and Glen absorbing 6,504*l.* 13*s.* 4*d.*, which includes 2,204*l.* 14*s.* 10*d.* spent on supporting and beautifying the hill on which stands the historic Malcolm Canmore's Tower, and 1,696*l.* 17*s.* 11*d.* in forming walks and erecting fences. Properties to the value of 6,486*l.* 10*s.* 9*d.* were purchased, principally with the view of improving the city amenities in the future.

NOTES AND COMMENTS.

It was only right that the important subject of the erosion of the English coast should be brought before the House of Commons at the earliest opportunity. In about thirty years it has been calculated that 182,000 acres have been removed by the action of the waves. While the protection of the coast is left to local authorities, whenever land is reclaimed it becomes Crown property. The outlay is sometimes very large. The town of Bridlington has had to expend 100,000*l.* on works of protection. The President of the Board of Trade has promised to consider the subject. A Royal Commission will be appointed. But unfortunately its duties will extend to waste lands and afforestation. By the time the three subjects are investigated and reported on it may be taken for granted that the area of England will be further diminished. Waste lands and planting of timber require prompt consideration. But it must be allowed they have not urgency equal to the encroachments of the sea, and it does not follow that men can be found who are competent to deal with the whole of the subjects.

After their return from Rome the painters who have resided in the Villa Medici as winners of the Prix de Rome often find a dreary interval awaiting them. Sometimes they are the victims of a prejudice which makes collectors believe that the prize-winners cannot escape from an antiquated method of painting, and hence their works are regarded as unsafe investments. With other men there is an expectation of power which it is almost impossible to realise. The late J. J. Henner was more fortunate than most men, for he could paint portraits and gain medals before he was able to hit upon the peculiar style with which his name is associated. He was a modest man, who sympathised with others who were less fortunate. His nephew, M. Jules Henner, knowing this, has presented the Académie des Beaux-Arts with a sum which will produce 9,000 francs a year. The fund is to be divided into three parts, which will be available for painters on their return from Rome, and which they can enjoy during three years. One hundred pounds per annum may be only a modest allowance, but it is sufficient to keep an economical artist from sacrificing his genius to the production of works of an inferior kind. After three years he should be able to shift for himself.

M. Camille Formigé is one of the best known of Paris architects. He has long been connected with municipal works, for he was at one time on the staff of the late M. Alphand when he was carrying out the transformation of the city. He has been awarded the prize which was founded in 1900 by M. Lheureux, and which is alternately bestowed on a sculptor and an architect. The other recipients have been the late Jules Dalou, to whom modern English sculptors owe so much; Charles Girault, the architect of the Petit Palais; Louis Barrias, the sculptor of the monument to Victor Hugo as well as of the *Bernard Palissy*; M. Pascal, the architect of the additions to the National Library and other public works; Antoine Mercié, the sculptor of the *Gloria Victis* and of the memorial to Alfred de Musset, which was unveiled a few days ago. M. Formigé is, therefore, in good company, and he is worthy of his position.

ILLUSTRATIONS.

VILLA OSWALD, COBLENZ.

Few cities have such advantages of position as Coblenz. Situated at the confluence of the Moselle with the Rhine, it is no wonder that the ancient Roman generals recognised its utility as enabling its holders to command two important rivers. The views from it are among the most delightful along the Rhine, for, as all travellers know, the picturesque castle of Ehrenbreitstein is situated in view of many of the streets and places. It is therefore easy to understand why Coblenz should be sought as a place of residence. During late years a great many mansions have been erected from the designs of Herr Willy Bock, an illustration of one of which we submit this week. His countrymen realise that he avoids all imitation of French villas, that he never repeats himself, although in all his houses there is sure to be something which recalls the ancient manner of building in their country. It will be observed that he is no stickler for symmetry; that the planning determines the character of the exterior, and that an endeavour is made to gratify the inmates with pleasant prospects. His houses are recognisable at the first view. Herr Willy Bock enjoys, of course, the advantage of having excellent carvers in wood and stone at his command. In the Villa Oswald there may not be much scope for work of that kind, but the figures, heraldry and ornament are of a kind that adds piquancy to the windows. There is at the present time an excess of regularity in domestic buildings, and the daring experiment of an artist who has been described as "one of the most enthusiastic architects and a true magician" will be appreciated by English architects.

ARDLORNISH, POLLOKSHIELDS, N.B.

WESLEYAN HALL, EDINBURGH: THE GREAT HALL.

HOUSE ON GRIMM'S HILL, GREAT MISSENDEN.

This house, known as "The Chilterns," was built last year for Mr. Alfred Dunhill on a branch of the Chiltern Hills, and stands some 600 feet above sea-level. From the windows are obtained extensive views of the surrounding country. It contains three reception-rooms, billiard-room, kitchen and usual offices and six bedrooms. The billiard-room is a detached building connected to the main house by a conservatory, and is finished inside in a quaint fashion, with heavy rough beams supporting roof. The beams and rafters all show and are stained almost black, the intermediate spaces being plastered. The doors facing the main entrance hall are all of polished mahogany, having been supplied by the Gilmour Door Company. The house is lighted throughout by acetylene gas. The walls are of brick covered with rough-cast outside and whitened, and the roofs are covered with Dunton Green tiles. All the windows are casements, being painted white; the frames thereof, as also all outside wood and ironwork, are painted green. A pleasing feature on the front elevation is a small piano recess in the drawing-room, which stands in front of the main wall. The architect is Mr. J. Bruce Merson, of 76 High Road, Kilburn, London, N.W., and the contractor for the house was Mr. George Parsons, of Prestwood, Great Missenden; the contractors for the billiard-room were Messrs. Aldridge & Son.

DESIGN FOR A COUNTRY RESIDENCE, WITH STABLING AND A FORMAL GARDEN.

The accompanying design was intended to provide compact accommodation for a large family with combined and attached stabling on a site near Goring. The formal garden is arranged at the back and west side of the house, the latter being sunk and bordered with moulded coping and piers in stone. The general materials to the house are in Portland stone and red brick filling; the staircase window shown above the entrance—circular on plan—is in oak, and the gable over it in Memel fir creosoted. The casements are wrought-iron with leaded lights stiffened with square gunmetal bars. The billiard-room and kitchen face north, the front reception-rooms having the opposite aspect, and being provided with large bay windows to receive the sun.

THE ARCHITECTURAL ASSOCIATION.

A SPECIAL general meeting of the Association was held on Friday evening last at the premises in Tufton Street, Westminster, Mr. E. Guy Dawber, president, in the chair.

The meeting was called to consider the Council's proposal to add the words "Editor of the A.A. Journal" after the word Librarian in by-laws 21 and 30, and substituting nine ordinary members in by-law 21 in place of ten.

The President said the slight amendment was proposed by the Council as it felt that the post of editor of the Architectural Association Journal should be balloted for annually as in the case of other officers, and as it was not desirable to increase the number of ordinary members of the Council it was proposed that the editor should be an *ex officio* member of the Council. The alteration still brought the total of the Council to seventeen members as before. The Council also felt that it was eminently desirable that the editor should always be a member of the Council in order to be *au fait* with the work and policy of the Association.

The amendment was unanimously agreed to.

At the ordinary meeting which followed Messrs. A. D. Leroy, J. A. Mettham, D. Kibbler, E. S. Coldwell, H. Cyril Chatfeild Clarke, J. E. Lee, F. G. Geary, C. W. Ferrier and G. E. G. Leith were elected members.

Mr. F. T. Baggallay read a paper, entitled

Porches and Approaches.

In making the customary apology for the imperfections of this paper, I may say (and you will readily believe it) that my chief embarrassment has been the enormous number and variety of examples that might be quoted, and the consequent impossibility of covering the ground at all adequately. I have failed to find satisfactory drawings or photographs of a few examples it would have been interesting to illustrate; but, again, the chief difficulty was to reduce the list to one that would not weary you. I am greatly indebted to Mr. Alan Potter, hon. secretary of the Architectural Association lantern slide committee, for help in selecting slides and in getting some made, and, in two or three cases, supplying the original photographs, and to Mr. Lewis for the loan of numerous plate illustrations.

In this room no apology can be needed for calling attention to the fact that, in many cases, nearly as many opportunities for architectural treatment are to be found in the surroundings, the accessories, and especially the approaches of a building as in the building itself. It is true that in the middle of crowded towns land is too scarce and dear for devotion to such amenities, unless the building be a public one or a palace. But in the open country and the villages, and even in small towns and suburbs, the meanest cottage or villa has at least, or ought to have, its proper forecourt. And many a commonplace building, great and small, has been redeemed from insignificance, many a beautiful one has been raised to the first rank, merely by the treatment of the approaches, or even by the addition of a well-designed porch to attract the eye and concentrate the attention of the passer-by.

In this country, at any rate from the time of the Druids until the last few years, there has never been any attempt to form those grandiose and impressive approaches which most other nations, ancient and modern, have deemed appropriate in the case of especially important or sacred edifices. And we have no porches which will compare, for instance, with those of some of the French cathedrals, on which the masons lavished so great a wealth of art and religious fervour. Our Mediæval forefathers spent, however, art and money on porches and gateways with enough liberality to show that they regarded such features as of more than ordinary importance. And from the Tudor period down to the beginning of the last century, the art of contriving decent and dignified approaches to private houses was well understood both in England and Scotland, and almost universally cultivated. If people did not rise, and could not often be expected to rise, to the magnificence of Bacon's three princely courts, with their walls and turrets, terraces and colonnades, architects, as is proved by existing plans, and the owners of a few great houses, strove to get within measurable distance of that ideal. And even the smaller houses, whether in town or country, were generally approached through at least some sort of enclosed forecourt of a formal and architectural character, with an outer gate on which a decent amount of art and money were spent.

The ideas and circumstances of the nineteenth century led, however, to a deplorable change. Formal approaches almost disappeared with formal gardens in a vain and childish attempt to imitate the beauties of natural landscape. The stately gateway, the straight avenue and the spacious forecourt gave way to a sort of glorified field-gate and a serpentine-road which seemed to turn every few yards to avoid a laurel or a nettle, revealing, by carefully-arranged accidents, occasional glimpses of the surrounding scenery, and at last lands one, sideways and unexpectedly, at the door of a mansion which, if the art were entirely successful, would seem to be situated in the midst of a wilderness. The hard utilitarian spirit of land and building speculation has dealt even more hardly with the forecourts of small suburban and roadside houses which, except for a cheap gate and a bit of cast-iron railing apiece, are left to be dealt with by tenants who have but a few years' interest at most in the property.

But as the love of beauty and appreciation of art grow and spread in the nation (as we all hope they are doing), we, as architects, are beginning to be called upon again to consider and to contrive those decent accessories and approaches without which a building, with even the smallest architectural pretension, is but a kernel without a shell, and, one with the greatest, a jewel without a setting. From the point of view of this paper it is especially worthy of note that the most striking sign of the better spirit has been the scheming of a grand processional approach road to London's Royal palace. It is true that an untimely, and, considering the occasion unlooked for, parsimony on the part of the public has shorn the work, for the present at any rate, of most of its architectural adornments. But the mere fact of its inception and execution is an encouragement to consider the question of architectural approaches generally.

Without attempting a strictly historical treatment of the subject, I may reasonably first call attention to the approaches to the great Egyptian temples as among the most notable examples of the grand manner. In their case the spacious open courts which have a prominent place in almost every great architectural scheme, ancient or modern, were in the strictest sense forecourts, and are supposed to have been a development of the walled spaces or outer defences in front of the mouths of caves, which were naturally used by the original inhabitants of the Upper Nile valley for dwellings, tombs and temples. When the great temples of Thebes were built the original purpose of the forecourts may have been forgotten, but their varied usefulness as well as tradition secured their survival. They secured privacy for the temple proper, and space for ceremonies and processions attended probably by large crowds of worshippers; and the porticoes which flanked their walls internally were in that climate, no doubt, a sufficient dwelling for the many servants and hangers-on of the establishment. In any case a second or even a third forecourt was in several cases added by the pride or care of successive generations. But the most striking feature of the approach to an Egyptian temple, a unique one in the history of architecture, was the pair of great towers which flanked and dwarfed the outer gate and formed the front wall of the forecourt. We call them "pylons," after Herodotus, and the proper Egyptian term seems to have been "sebkhet," which had much the same meaning—merely "door."

They were rather exaggerated walls than towers, of little depth but so high that they always overtopped the temple proper, sometimes by 100 per cent., and so wide that they usually well overlapped the side walls of the court. Their faces were smooth and slightly battered, and the main purpose of their peculiar form was evidently to provide a spacious and suitable field for the illuminated texts of the sacred scribes. Almost as certainly, I think, they represent the face of the cliff surrounding the narrow entrance to the original cave temple, and which must have been used for the same purpose. In front of the pylons were obelisks and colossal statues, usually seated, and, in some cases, it is said, the gate was approached through an avenue of sphinxes. At the opposite or inner end of the nearly square forecourt, between the court and sanctuary in the original arrangement, was either a deep open portico or an enclosed hall of close-set columns, the most important feature architecturally of the whole group. In most cases, when a second court was added the arrangement of pylon, court and hall (or portico) was repeated, and the famous hypostyle hall at Karnac was the hall of such an addition; behind it is the pylon of the original court. The whole of the approaches therefore to the Egyptian temple, when fully developed, were an avenue of sphinxes, a pair of pylons, a forecourt, a hypostyle hall, perhaps a second pair of pylons, a second court and a deep portico or second hall of columns. It has taken a long while to describe, but it is perhaps the most ambitious system of approaches ever carried out. At any rate, it has never been surpassed in magnificence by any that we have the means of tracing fully.

In Chaldea the temples were mere shrines elevated on steep-terraced mounds, and approached by flights of steps or winding inclines. But according to more recent discoveries, these mounds were approached like the Egyptian sanctuaries, through one or two forecourts with more or less striking gateways. Several such gates are represented in the bas-reliefs in the British Museum, and usually consist of a square-headed opening flanked by square crenellated towers, as if for defence.

In Assyria the royal palaces were the principal buildings, but of the approaches to them we only know that, since they stood on mounds, they must have been reached by flights of steps, with inclines probably for the chariots. The main gateways seem to have had semicircular arches faced with glazed tiles or faïence, judging from the city gate discovered by M. Place. The responds of the arch were huge sculptured bulls with human heads, some of which have been removed to modern museums. There are two very fine ones in the British Museum. These gates were sometimes pierced through towers, and sometimes flanked by smaller ones. The sumptuous style of the staircases leading up to them may probably be fairly estimated from the ruins of those to the Palace of Xerxes at Persepolis, a building of much later date, but the general style of which was largely based on the Assyrian palaces. Perhaps I may be excused for showing at this point a view of a Japanese temple which I found in a French journal, and which seems to me to exhibit the effectiveness of stairs and terrace approaches even when combined with grotesque architecture and an incomplete symmetry.

Returning to the prehistoric styles further west, the approaches of the Mycenæan palaces differed again entirely from all those hitherto noticed. They were more like the approaches to a Norman castle. Indeed, the resemblance is striking if you forget the drawbridge and overlook questions of style. There may be nine-and-sixty ways of constructing tribal lays, but perhaps there is only way of constructing the approach to a tribal's chief fortress. The palace was built on a hill-top, and was only to be reached by a narrow road ascending the flank of the hill and exposing the right or unprotected side of assailants to the kind attentions of the defenders on the walls. There were several narrow gates to be passed, and they were carefully situated in internal angles of the wall exposed to a cross-fire of stones and darts. Utilitarianism of the sternest kind was alone considered until the main gate leading to the forecourt of the palace was reached. This, judging by remains, was more sumptuously treated, with internal and external porticoes supported on columns (probably wooden columns). These porticoes may have served both as shelter for the guards on duty and as the court of justice of the king or chief, in accordance with the practice of semi-barbarous chieftains in the East in all ages. Greece is not, perhaps, properly Oriental. But the Huns, at a later date, brought the practice with them much further west, and all we know of the Mycenæan civilisation, including the plans and decorations of the palaces, suggest an Eastern origin.

The gateway on the Acropolis at Athens, the admiration of the ancient world, and called by them emphatically "the Propylæa" (it is said the term was never used until modern times for any other gate) was undoubtedly merely a rebuilding, on a glorified and extended scale, of the gateway to the old palace of the kings of the Mycenæan period. The approach to the gates (the plural form of Propylæa is said to have reference to the two gates or two leaves of the gate, and not to the porticoes) curiously enough, as it seems to us, remained the old narrow steep pathway winding round the bastion from the south. Whether, if war had not intervened to stop the work, the road would have been improved too, it is impossible to say; but somehow it was hardly the kind of feat that one suspects would have appealed to the Athenians even if it had been safe. The genius of Greek art, however refined, seems to have been narrow. There is no clear evidence that it ever extended from the consideration of a single structure to a group. A little superstition or priestly jealousy was allowed, even at Athens, to cripple or to crowd the finest works, and each had to stand alone, neither leading up to anything else nor itself the crown of a comprehensive scheme. It is true that in many, perhaps in most, cases there was a wall and portico enclosing the court or "temenos" in which the temple or several temples with subordinate buildings stood. But in all cases with which we are fully acquainted the form of the court, the position of the gate and the situation and orientation of the various buildings seem to have been entirely fortuitous, or decided in each case separately without reference to the rest.

In considering Greek approaches, unless we accept partial and inconclusive evidence, we can only admire the fine judgment and unwearied industry of the artists in refining the proportions and the details of porticoes such as those of the Parthenon and Theseum, wondering whether it was really worth while, feeling that at any rate such an effort is beyond us in the present day and might even be rather absurd.

Of the ambitious spirit of the Imperial Roman architects in designing and carrying out the most splendid schemes of approach, there is, on the other hand, ample evidence in history and in the ruins of some of them. Marble porticoes, surrounding and leading up to spacious courts and decorative arches, triumphal, memorial or merely emphatic of an entrance or a particular point, were the chief materials with which they produced their effects. But they did not disdain on occasion a fine flight of steps, and, as their native temples were mostly raised on a high podium, that feature was common. The completeness with which Roman work has, in almost all cases, been destroyed unfortunately leaves little for illustration except a few ruined arches, rows of columns and some plans.

Triumphal arches were more often than not erected as entrance gates, in many cases in the provinces as the main entrance to the city. Among the well-known examples the Arch of Rimini was the south-east gate of the town on the Flaminian way. That at Beneventum was the eastern gate on the Appian way. That at Orange, in France, was the northern gate of the town. Those at the naval station at Pola, in Istria, at Treves, on the Moselle, at Autun and at Verona were all city gates. The late "Arch of Hadrian," at Athens, was the gate of one of the quarters or suburbs of the town which he rebuilt. The fine Arch of Trajan, at Ancona—so much finer in its erect simplicity than most of the over-enriched work of that emperor—was the entrance to the quays which he built. The arches of St. Chamas were the entrances to a bridge, and so on. In Asia and North Africa most, if not all, the Roman city gates were of a similar though plain architectural character.

In Asia the city gate was often but the end feature of a street lined on both sides with either marble colonnades or covered porticoes, leading right through the town or up to its main feature. In Palmyra such a street seems to have existed before the great Temple of the Sun, or before the latter became the great feature and main glory of the city. And as the street did not run directly towards the temple, there was a bend to be disguised when it was desired to make the one lead up to the other. This difficulty was overcome by the arch seen in the view, which is built on the wedge-shaped plan familiar indoors on a small scale to all practical planners, but never, I fancy, seen elsewhere in such a size. Such streets are said to have existed from very early days—170 B.C., at any rate—in Asia, but we do not hear of them on any great scale in Europe, except in the case of Constantinople, where one leads from the forum to the palace.

The triumphal and memorial arches erected in Rome itself seem to have been generally isolated monuments, but the Arch of Trajan was the entrance to his forum, and the forum was the forecourt to the Ulpian basilica. The arch had a single opening, but was decorated with sculpture in the rich and heavy style which, it is suggested, was due to Trajan's Spanish taste. Some of the carving is now to be seen on the Arch of Constantine.

The forum was nearly a square of 400 feet, and on two sides had a double portico and an immense semicircular recess or hemicycle. The basilica occupied the whole of a third side, and was what we should call "double-aisled," with a large apse to accommodate a magistrate's tribunal at each end. On the further side of the basilica (from the forum) was the great column, which could be viewed from the galleries surrounding the small court in which it stood; and beyond that again the Temple of Trajan.

The whole group of the arch, forum and basilica, and the small court may reasonably be looked on, from the architectural standpoint, as the approaches to the Temple of Trajan, the crowning feature of the most magnificent of

Roman works, or the one at least which most forcibly struck the imagination of those who, in later times, saw it when partly ruined.

Another finely conceived approach was created in Rome by that great building emperor, Trajan's successor, Hadrian. It led to his mausoleum, now called the Castle of St. Angelo, and took the form of a bridge over the Tiber leading from the stone quay on the city side right up to the gate of the mausoleum (the quay on the mausoleum side now buries several arches of the bridge). There were, of course, as in the case of other ancient bridges, arched gateways at the ends, which, like the decorative parts of the mausoleum, have disappeared; and if it were not for Bernini's angels the whole affair would now be very tame and uninteresting. The temptation to dwell on Roman approaches of the Classic period is great. They were so well conceived; but they are difficult to illustrate, and I will only mention one other example, that at Baalbec. I do so on account of its many curious and interesting peculiarities.

A flight of over fifty steps and 150 feet wide leads up to a front close on 240 feet long, and consisting of an open portico of the Corinthian order, stopped at the ends by what are supposed to have been towers (towers open at the sides to the portico). Behind this broad porch is a hexagonal court, surrounded by a peristyle, and outside the peristyle deep recesses (an arrangement like an aisle with chapels outside it). Beyond this was the great forecourt of the temple, about 400 feet square, also with its peristyle and recesses. The temple itself was raised on a podium reached by another flight of steps. The most singular feature is the hexagon court, and if you look at the plan of this with the long portico and two towers in front of it, I think you must be struck by its resemblance to the plans of such buildings as the Minerva Medica, at Rome, and San Vitale, at Ravenna, both of which are, however, on a much smaller scale. The long portico with its towers, which was built by Antoninus Pius about 160 A.D., would probably be found to be neither singular nor original if we knew more about Syrian buildings. Herod's temple, erected nearly 180 years earlier, and several others, seem to have had similar porches. Another curious feature at Baalbec, one which is found in other more or less contemporary buildings in the east of the empire, but did not reach Italy until later, is the breaking-up of the entablature into an arch over the middle intercolumniation of the portico, the space being made especially wide for the purpose.

Of the buildings of Rome's great rival, Persia, we know but little. Of courts and gates I have found one solitary plan. But the entrance to the palace itself under the Sassanian dynasty was too remarkable to be passed over. It consisted of a large and lofty hall end-on to the front of the building, but recessed into it and vaulted with an elliptical barrel vault, the major axis of the ellipse being vertical. There was no outer wall whatever at the front end, so that the appearance was something like that of a huge cave nearly as high as the wall. This entrance-hall at Ctesiphon was 163 feet deep by 86 feet wide and 105 feet high. At Firouzabad it was 90 feet deep and 45 feet wide, and two apartments not very much smaller opened into it on each side in the same cave-like way.*

There is a curious superficial resemblance between the elevations of the front of the palace at Ctesiphon and the front of Lincoln Cathedral. It is only superficial, for the great arch at Lincoln is quite shallow, and one can hardly suppose it anything but accidental.

In the first few centuries after the great revolution, when Christianity became the State religion of the Roman Empire and the capital was removed to Byzantium, architecture, in both the east and the west of the empire, was almost wholly occupied with the building and rebuilding of churches. The last remnant of pagan worshippers were eventually scattered by a destruction of the temples as deliberate and as sweeping as was, say, the destruction of images by the reformers in this country. But before that happened the followers of the new religion were already divided on points of doctrine, and during several centuries, as the balance of authority or popularity swayed from one opinion to another, every church in turn was subject to attack, and was sometimes destroyed. In such circumstances it is not surprising that the churches assumed on the outside something of the forbidding aspect of a fortress. Among other things the entrance to every church was guarded by a broad narthex, or porch, and a spacious forecourt—sometimes, in this style, called an atrium. The latter was surrounded by a high wall with a portico or cloister on the inside, the main object being, without doubt, to provide a refuge for defence in times of need for those members of the congregation for whom there was no room in the church. If the particular doctrine professed by that congregation triumphed, the court was promptly filled again with penitents seeking admission or readmission. All the earlier courts have either disappeared or been rebuilt, and I can only show you the well-known one in front of the church of St. Ambrose, at Milan, which, though it used to be attributed to the ninth century, can hardly be earlier in its present form than the twelfth. It is not so square in plan as seems to have been usual; indeed, it is a double square. And it has cross-vaults and clustered piers. The proper place for penitents in times of peace was the porch—or, as we call it when it extends across the whole width of the building, the narthex. Since religious revolutions were frequent and the penitents on every occasion numerous, and since they were sometimes kept a year or two before being readmitted, one can readily understand the necessity for so much space. The narthex of St. Laurence without the Walls at Rome is unquestionably made up mostly of materials of very early date. The church was built about 330, with a narthex at the other end. But the orientation was reversed in 578, when a new nave was built, and the old narthex apparently built up and converted into a sacristy. It is not unlikely that four of the columns which are spirally fluted, and all the Ionic caps and entablature came from the old narthex. But they all seem too good even for the fourth century, and were probably, in any case, stolen originally from some Classic building. The same is no doubt true of the materials, or the most part of them, making up the narthex of Civita Castellana Cathedral. The central arch is an effort beyond the architectural skill, and out of keeping with architectural style, of 1210 A.D., when the building was erected (as is recorded in two places upon it). But before the end of the twelfth century the spacious portico of the ancient world, which stretched across the whole width of a building and was part of it, often the chief part architecturally, was disappearing in Italy. Having given to the architecture of that country such approaches as the porticoes of the Pantheon, S. Vitale, S. Ambrogio, and last, but not least, St. Mark's, it had to give way, in deference to the almost universal poverty of the times, to the porch, a feature proportioned to the door and not to the building. I think it is in Street's "Brick and Marble Architecture in Italy" that attention is called to the fact that the porch is a feature confined to the north side of the Alps. And though that is not strictly true, the porch has never flourished in Italy. There are plenty of those deeply-recessed doorways, of which it is always hard to say whether they should not properly be called porches. But the porch proper is rare, and, with two or three exceptions, is only found in the form of a shallow arched hood tied with an iron rod and resting on two columns, which columns often stand on the backs of lions or griffons. This form lasted from the twelfth to the seventeenth century, with changes only in ornamental details. On examination a good many of those attributed in guide-books to the twelfth century must be put down to the thirteenth century or even later. The two at Bergamo are of the fourteenth century. That on the south side of the church bears, according to Street, the date 1360 and the name of the mason. But some, such as the porches of Modena Cathedral, S. Zeno, at Verona, and others, may very well be work of the latter part of the twelfth century. The south porch at Ancona is possibly of that date, but the west one is almost certainly thirteenth-century work. If you look closely at the photograph, too, you will see clear indications at the springings of the arch and in some wall shafts outside the porches that it was once a triple porch with three doors into the church. I think the irrational idea of putting the columns on lions' backs must, though some critics will not have it, be borrowed from the East, where the fashion is ancient and persistent. The beast, whether lion or griffon, has often another beast or man in his paws, and they are said to represent supporters of the Church or of orthodoxy triumphing over Saracens or heretics—a piece of symbolism which would not have seemed so childish to the ignorant and barbarous folk of the twelfth and thirteenth centuries as it does to us.

The most remarkable of Italian church porches is the gigantic one attached to the church of S. Antonio, Piacenza, and called "Il Paradiso." The pinnacles and wheel-window are quaint and, I think, pretty. The size and the form of the structure are unique, but how it could acquire the name of "the Paradise" is a puzzle. One can only suppose it was different when first built. The buttresses look as if they were additions. Not impossibly it was stuccoed and enriched with paintings. The only other Italian church porch that I know, and that is worth a passing reference, is at the west entrance to Ferrara Cathedral. Like the last, it is unique, but it is its beauty that makes it so. And it must owe its beauty almost certainly to some French mason who, at a later time, added to the regular twelfth or thirteenth-century Italian porch an upper storey which, as Street said, looks at first sight as if it had been transported from Northern Europe.

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* Dimensions from Mr. Spiers's paper in R.I.B.A. Transactions, 1891.

However restricted one may find the subject of porches when dealing with Italy, the same cannot be said of Mediæval England and France, where churches and cathedrals afford an endless and varied series of examples, on which it is the merest platitude to say the artists concentrated their best work. This section of my subject is, however, so familiar to most of you that I do not propose to go into it at much length.

France claims attention first on account of its superiority in the richness and number of first-rate examples, and also, I think, on account of its having been rather earlier in the field. The magnificent series of the great cathedral porches allied to those at Chartres and Amiens cannot be equalled or approached by any series of existing works of any age or country, either for richness, for beauty, or for a deliberate and spirited effort to lift the mind of the entering worshipper to higher things. It seems to me that their merit is enhanced by the fact that in outward appearance many of them fail to show as porches. Built between salient buttresses, and surmounted by galleries, parapets and pinnacles, they are artfully confounded with and form an integral part of the front. Instead of projections we seem to see deeply-recessed doorways. This series, with its alternating shafts and statues in the jambs, and its sculptured tympanum and central shaft, probably owes its origin to the eleventh or twelfth-century portals, of which two famous ones in Southern France, at St. Gilles and at Arles, have survived as samples. In its later developments the coping of the gable parapet came down and joined the hood-mould at the bottom, and curving upwards ran up into a great finial, and the space within and around it was filled with light flowing tracery or sculpture. Eventually, as at Tours and St. Riquier, this aspiring moulding was snubbed off, as it were, a little above the top member of the arch, leaving a curiously-shaped panel; and the Flamboyant detail melted almost imperceptibly into the more Classic forms of the François I. style without losing either its richness or its apparent complication.

These triple porches are the typical French Gothic portals, and the telling porch of the little church of St. Maclou, at Rouen, which everyone knows, and which, I think, everyone must admire, may perhaps be considered only a clever variation in plan on much the same theme. There are, of course, other types, and if among the members of the cycle and camera clubs there are any students of Gothic left, or if they get tired of touring their own country, I can strongly recommend them to the village churches of France. They would find a tour there enrich their minds at no great expenditure of money. At present, as I want to get on to English work, I will only mention one other French porch—an early one at the ruined church of St. Pierre, near Vézelay. It is a low building, three-aisled, of the full width of the church, and almost as much projection. It is groined from slight piers internally, and its form reminds one of the Galilee at Durham. I shall be glad if anyone can explain its purpose to me.

(*To be concluded.*)

A Paper on "Church Fittings" will be read by Mr. Charles Spooner at the meeting of the Liverpool Architectural Society on Monday next.

The Glasgow Institute of Architects were informed at their last meeting that, in addition to the prize of 2*l.* 2*s.* given by the Institute, gained by Mr. Wm. Ralston, a second prize of 1*l.* 1*s.* had been awarded to Mr. Thos. A. M'Adam in the competition for the Institute's prize in the Technical College. Messrs. Crawford and Lindsay were appointed adjudicators for the School of Art prizes. A draft letter regarding the subject of the number of apprentices employed in architectural offices was submitted, and it was agreed that the letter should be issued to the members of the Institute.

MODERN SCULPTURE.

On Monday at the Royal Academy Mr. W. Goscombe John, A.R.A., delivered a lecture on "Modern Sculpture." He described Bernini as "the first of the moderns." This seventeenth-century artist had been criticised and condemned, but in spite of the extravagance and the excess of movement in his work (characteristics of the period) he was a man of originality and power, and to him we owed the freedom of modern sculpture. The seventeenth-century influence continued well on to the end of the eighteenth century, when two men became prominent, Canova and Houdon. The influence of the antique on Canova led him to make slavish copies of antiques in the Vatican, and the effect of his art had gone for ever, while that of Houdon retained all its strength. The name of Houdon would always be associated with the truly classical, and in insight into character and power of expression he had never been surpassed. His busts stood alone, no other sculptor had ever left such a collection, and the Roman bust was the only thing that could be compared with them. In England the statue of James II., said to be by Grinling Gibbons, was the best work accomplished since Torrigiano visited the country. Roubiliac was refreshing—despite his faults—in a dull age of mediocrities, and his best successors were Bacon and Flaxman. Bacon was the first great English sculptor, the others were all foreigners, and with him the race of native artists began. Flaxman's fame would probably rest more on his outlines than on anything else, and the work of another man of the period, Banks's "Falling Titan," was curiously like that of Rodin. Mr. John referred to the decay of sculpture in England at the end of the eighteenth and the beginning of the nineteenth century, and said that when the Elgin marbles were brought here even Flaxman was not enthusiastic about them, and preferred the Apollo Belvedere to the Theseus. Haydon was the champion of the Elgin marbles, but he was as one crying in the wilderness, and for another half century the Apollo Belvedere reigned supreme. Gibson the lecturer passed over with but little praise. His work had simplicity and sculpturesqueness, but it lacked emotion, and in art emotion was the quality that distinguished the quick from the dead. France in this period of classical revival had been producing sculptors—in fact, there had been no time when she had not produced them, and the tradition of the ancient sculpture seemed to have descended to her naturally through Italy. The French had written their national epics in marble and bronze, and sculpture had surely never been more nobly employed than in France during the last fifteen years. There had been three great periods of sculpture in the world, the Greek, the Renaissance and the French. It was Rude who headed the third period, and in its own way nothing surpassed his relief of the "Marseillaise." Carpeaux, the gifted pupil of Rude, was the first of the distinguished band of modern sculptors who had shed lustre on France, among them Barye, Falguière, Frémiet, Mercié and Rodin. Since the Assyrian sculptures there had been no animals to compare with those of Barye. Falguière, essentially a modern, had a facility and a rapidity of vision unequalled among his contemporaries. His influence was great in the schools and it was his teaching more than any other that had produced the wonderful modelling now common among the younger French sculptors. There was Dalou, too, whose work never suggested the model and was full of a sense of the open air, whose nymphs and satyrs looked as if they never could have worn clothes. England owed Dalou much for his teaching here, and he, too, loved England. Mr. John having touched on the work of Frémiet, Dubois and Mercié, then turned to Rodin, whose name was received with applause by the students. Rodin was said to be a fighter against much that was conventional in sculpture. It was a matter for regret that his work had been the subject of so many polemics. If you listened to one side you were told that his sculpture was finer than ancient art, while his opponents described him as a trickster. Rodin was a great artistic personality of whom we should all be proud. The author of the "St. Jean" needs no eulogy; he has written his name in the annals of sculpture. But in his case, too, added the lecturer, time would separate the gold of his work from the dross. In Italy the glory of the sculptor seemed to have departed, although as carvers the Italians had no equals. In Germany no great sculptor had appeared since Rauch, but Russia had two men of note in Antokolsky and Prince Troubetskoi. Few men to-day were producing more suggestive and elightful work than St. Gaudens, America's most distinguished sculptor. Among English sculptors Mr. John paid tribute to the memory of Onslow Ford and Bates and Armstead, and spoke of Stevens as "a truly great artist—a plendid anachronism." Joseph's "Wilberforce" in Westminster Abbey he regarded as almost worthy to stand by he side of Houdon's "Voltaire." Mr. John's address was llustrated with numerous lantern slide pictures of sculpture.

PROPOSED EXHIBITION OF SCULPTURE.

THE following petition from the Society of British Sculptors has been sent to the London County Council:—

We, the Society of British Sculptors, which has been ncorporated for the advancement and protection of British culptors, wish to approach you, the representatives of the eople of London, with a proposal for the holding of an xhibition of British sculpture, and with a request that the London County Council will assist us to carry out this lesirable object by granting a temporary site and building where an exhibition of the art of sculpture can be properly seen for the first time in London.

We will proceed to give our reasons for holding such an exhibition.

From the time of the injunction issued by Henry VIII. which destroyed all images, the art of sculpture has been discouraged and looked upon with a certain conscientious fear, so that when our public buildings required sculptured decorations the sculptor had to be imported into the country, for example, Torrigiano for the Henry VII. monument, Caius Cibber for the Royal Exchange, Sheemaker for St. Paul's Cathedral, Roubiliac and many others for our great monuments, even down to our own time, when some of our principal works are by foreign sculptors, so that the national art in the country has been sadly neglected and most inadequately exhibited, resulting in a national loss; for by the art of sculpture a nation expresses its ideals, and its appreciation of the great deeds of its children is thus handed down to history.

To remedy the result of past neglect, the sculptors of Great Britain have formed themselves into a Society with the object of encouraging and protecting the art.

It is little if at all known what a mass of beautiful work has been done by the silent enthusiasm of modern sculptors. Their works may have been from time to time inadequately exhibited and then returned to them, to be buried in the studios and finally forgotten. Thus many of our ideal works have been lost to the nation. It is with a view to bring together these works executed within the last twenty-five years and enable the public at large to have some idea of the wonderful progress the art of sculpture has made in Great Britain during that period, and what talent is hidden, undreamt of by the public, that our Society seeks the aid and co-operation of the London County Council.

We may mention that your Council has more than 600 students in its schools studying the art of sculpture. It is hardly logical that the cost such education must involve should be incurred without the country being able to see the result in the executed works these students ultimately produce, or that so much seed should be sown and the country never reap the harvest. Its introduction into the schools proves that the art is considered necessary for the nation's progress.

It is doubtful whether any private institution could provide a building suitable for the complete display of all the arts, and it is only by the assistance of a representative body that an art such as sculpture can be fostered and encouraged. Moreover, it is a matter of the gravest municipal concern that the public buildings, squares, and streets should be appropriately and beautifully decorated. London gains by the enhancement of the beauty of its streets and the appropriate decoration of its buildings, and the public authorities owning land and buildings have a direct interest in this gain.

That municipalities have recognised the importance of the arts to their welfare is manifested by the city art galleries in Liverpool, Manchester, Bristol, Bradford, Glasgow, and throughout the Continent of Europe; indeed, all over the world.

In England hitherto the art of painting has been most prominent, greatly to the neglect of the arts of architecture, sculpture, and the applied arts.

We, the sculptors of Great Britain, ask you to be the first city to give to the art of sculpture, which we consider none the less important to the country's interest, that recognition and encouragement which alone can be done by you, the representative governing authority for the county of London.

We trust that the Council will so far sympathise with our objects as to grant our request for the temporary use of a site and temporary buildings if possible either in Aldwych or Kingsway.

Council of the Society of British Sculptors.—Thomas Brock, R.A., president, Alfred Drury, A.R.A., George Frampton, R.A., W. S. Frith, F. Lynn Jenkins, W. Goscombe John, A.R.A., Charles Lawes-Wittewronge, Bart., T. Stirling Lee, David McGill, F. W. Pomeroy, A.R.A., W. Reynolds-Stephens, Hamo Thornycroft, R.A., F. Derwent Wood.

THE CHICHESTER CAMPANILE.

A MEETING of the executive committee of Chichester Cathedral Restoration Fund was held on Monday in the chapter-house at Chichester Cathedral. The hon. secretary (Mr. W. B. Freeland) presented a report as to the result of the appeal recently made to the county for the purpose of completing the restoration of the bell-tower and of replacing the lead roof of the cathedral, now in a precarious condition. He had to regret that the result of the appeal was not quite so favourable as the committee had hoped. There had, however, been a very general response to the appeal, and subscriptions to the amount of 1,055*l.* and upwards had been paid or promised, in addition to the 500*l.* promised by the Ecclesiastical Commissioners, and the treasurers already had in hand upwards of 600*l.* towards the proposed work. In the absence of Mr. Somers Clarke, the architect who has the supervision of the work in hand, and who is now abroad, he (Mr. Freeland) had consulted Messrs. Vick & Sons, of Chichester, as to the precise nature and probable cost of the further work to the bell-tower, and understood from them that at least 2,000*l.* would be required to complete the bell-tower, and that the repairs to the cathedral roof would also cost 3,000*l.* The latter work they thought was not so urgent, and could wait a year or two provided the ordinary current repairs to the roof were proceeded with, and their suggestion was that they should be instructed when the proper time arrived to proceed forthwith with the repair of one-half of the bell-tower, which would, they estimated, cost about 1,000*l.* They would erect a scaffolding so as to embrace one-half of the building and then, when the repairs to that half were completed, they would proceed with the other section, and they suggested that the northern half should be first undertaken inasmuch as there was greater danger to the public on that side from falling fragments. This work would employ them practically during the whole of the summer, by which time the committee might reasonably hope to have the necessary further funds in hand.

It was resolved, says the *Sussex Daily News*, after discussion in which the Duke of Richmond and Gordon, the Dean, Canon Deane and others took part, that Messrs. Vick & Sons should be instructed under the supervision of the architects to proceed at the proper time with the repair and renovation of the bell-tower to an amount not exceeding 700*l.*, which, with the instalment of the contribution from the Ecclesiastical Commissioners now due, would shortly be in hand, and the Secretary was instructed to give the necessary directions. It was anticipated that there were many people in the county who were intending to subscribe, but for one reason or another had not decided on the amount of their contributions. In order to complete the contemplated work and so secure the cathedral from the ravages of time for a considerable period to come, 3,500*l.* is still urgently required.

The Secretary further reported that of the instalments of subscriptions to the old restoration fund a sufficient amount had now been received to warrant a further grant for the purpose of proceeding with the pointing of the cathedral, which still requires a great deal of attention; and on the motion of Canon Deane it was unanimously resolved to apply another 100*l.* for this purpose.

Mr. Henry Mather has been appointed surveyor to the Urban District of Surbiton, at a salary of 250*l.* per annum, in succession to his father. Mr. Mather will not be allowed to take private practice.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

At the rooms of the above Society, on Thursday, the 22nd ult., Mr. A. W. Waddington delivered a lecture on "Domestic Architecture: Some First Principles." Mr. R. A. Smithson was in the chair.

The lecturer commenced by indicating his impression of the exact position of the various claimants to the title of domestic architecture. The first is the work of the average building draughtsman, whose idea of a home is that of a convenient bodily resting-place and shelter and nothing more. A more exclusive, or rather inclusive, claimant is the work of a true architect. The third claimant is an intermediate one, falling between two stools, inasmuch as it is not in healthy contact with building materials and not in reach of artistic touchstones. It is because the vast bulk of modern houses show this unsatisfactory stage of development that a discussion of first principles is necessary. The ideal architect is the philosopher among the builders, and a philosopher is one who is genuinely in love with ideas, *i.e.* vital first principles. Amongst the main first principles of this sort are those of "the one and the many," from which principles of harmony and variation, subordination and individuality are evolved. The dangers of exaggerated unity are monotony and slavishness; those of exaggerated diversity are restlessness and license. The especial problem of to-day is how to obtain unity without monotony. The lecturer's excuse for an insistence upon the obvious in theory was that it was obviously forgotten in practice. Turning to illustrations of this main first principle of the interplay of subordination and freedom in architecture, the two great types are found in Greek and Gothic. Modern work reaches neither the obedience to perfect law shown in the one, nor yet the perfect liberty of the other. A house is a group of units—rectangles necessitated by rooms and other divisions. In the relation of these units, natural inequality suggests the needful diversity; true scale and proportion, and, above all, simplicity of main lines tends to unity. In detail the roof is the first consideration, as giving dominant boundaries vertically and horizontally; the windows, as the eyes of the building, are the next consideration, as giving brightness and interest. To attain unity the main rectangle of the block should never be confused by subordinate parts; equality between natural divisions is usually bad; proportions should be subtle, and not too obvious in value. The unit of subdivision (as in window-panes) should be carefully selected, and not changed without reason; hips or gables are not interchangeable on equal terms. Changes of method were changes of key, varieties of materials and of colours also, and should be kept to a minimum. On the other hand, a variation of minor features gives interest, and symmetry, as in gables, gains by contrast with unsymmetry elsewhere. But counsels of perfection, if of use at all, are useful as items of good taste, and good taste is a trained capacity to grasp first principles, first in feeling, then in thought. In attaining good taste sympathy with the individual artistic value of materials is requisite, and co-operation between mind and matter, sufficient not only to make a physical rearrangement, but a mental creation of beautiful form.

EGYPTIAN ART.

The first of a series of lectures on Egyptian Art was delivered on the 19th ult. at the Continental Hotel, Cairo, by Professor Flinders Petrie. The lectures are given, like those of two years ago, in aid of the Anglo-American Hospital and the Church Poor Fund.

The first lecture was on that period of imitative art from the nineteenth dynasty till Roman times. Professor Petrie remarked that, though the art of ancient Egypt is more or less familiar to everyone, yet it is generally credited with the style which is only the latest and least original form which it assumed. Its long history is ignored, and only its worst phase is commonly recognised. The cause of this misunderstanding is clear. The latest buildings were those which survived most completely. They attracted the attention of the European copyists by their preservation, and hence the early publications filled the popular view with the great temples of the base epoch. Then worse has followed, for bad copies of this bad work have been placed before our eyes for trade purposes, until the vilest parodies have come to be accepted as representing ancient Egypt to the public mind. What is commonly called Egyptian decoration is worse than the worst debasemen which ever took place anciently.

The same misunderstanding took place in regard t Greek art. It became known through Roman copies, an our great-grandfathers were brought up on the worst tast of the later Roman empire, and made yet worse copies o it. That stage of knowledge is much like the public ac quaintance with Egypt at present. Since that, the goo Roman work came to be appreciated, and at present a Roman copies are looked on as only indications of what w have lost of the great age of Greek art, and our under standing of it is drawn from the original sources of th creative age of Pericles and the still earlier times. It i such an appreciation of the true value and character o Egyptian art, as opposed to the late degradation of it, tha will be brought forward in these lectures.

We shall deal with three main ages of art. The mos familiar age, that of the late works, is our subject to-day and it is best understood in general. It was the age o imitative art, when there was no hope for good work excep in the copying of what went before it. The earlier age o conscious art and of scholarly training in art we shall consider next week. And the really formative period an spontaneous art will be best understood after considerin the more familiar periods.

The beginning of the imitative period is in the works o Rameses II. That sovereign is best known by his profusion of monuments; but all of them were hopeless imitations when they were not direct thefts of earlier works. We see in them the stiffness of mechanical copying by rule, and the weakness of mere smooth finish is seen under his successors. Rameses III., unable to avoid coarseness, tried to give the virtues of his failings by an attempt at strength in the use of deep shadow.

The methods of training the artists can be seen in the drawings and carvings of students which have been preserved, such as the heads and figures of kings, and one observant sketch of a young peasant. Through the weakness of the later work a certain ability is seen for conventional expression, and some of the wooden faces of coffins are graceful and refined. In statuary, good traditions may be seen mixed with clumsiness of attitude and pose, as in the gold statuette of Hershefi and the statue of Amenardus.

In the twenty-sixth dynasty the traditional relief fell to a very low condition, but improvement was sought by direct copying of older work. In these copies the detail may be almost indistinguishable from that of early times, but the lack of pose and unity of the figures at once betrays the copyist. The overloading with detail also shows the lack of originality.

The statuary of the age is better, but its success is largely due to using hard stones, with mechanical finish and precision of surfaces. The animal figures appear to us better than the men, but that may be due to our closer appreciation of the human figure. The polished basalt figures of the hippopotamus goddess, the cow and others in the Cairo Museum show this. Portraiture evidently attracted the best artists, probably because it was better paid for, as in modern times.

Under the Ptolemies the work is still poorer. The limbs are mechanically put together without any true connection, as in the *Philotera* in the Vatican. The work was entirely a matter of joining together so many separate parts by mechanical rules. In order to give some effect every part was exaggerated in an absurd manner, much like the degraded taste shown in the Farnese *Hercules*. The power of portraiture was the last surviving trace of Egyptian art, as is seen on some stucco heads of coffins.

The late architecture shows the same faults of mechanical copying, but new motives were sought for, as at Esneh. Some skill in graceful design still continued, such as the pavilion of Trajan at Philæ. The last survival of the old style of building is the Deir el Abyad at Sohag, where as late as the fourth century A.D. the temple type was adapted to a Christian church. It is to be hoped that this most interesting monument will be most minutely conserved in the coming repairs which are now promised.

It is an ungrateful task to point out the deficiencies of the work which usually passes as typical of Egypt, but it is only by contrasting this with what went before it that we can see how much greater Egyptian art was than is commonly supposed from the familiar examples.

"**Loch Achray,**" by the late Mr. Sam Bough, R.S.A., was sold by auction on Saturday for 980 guineas. The canvas measures 46 inches by 70 inches.

TESSERÆ.

Cagots' Churches.

THE Cagots are a mysterious race found in Gascony, Béarn and the Basque provinces. During many centuries ey were treated as if they were accursed. They had to ear a peculiar dress, and most trades were closed to them. is in the churches, however, that we find the most umerous and lasting proofs of the abhorrence in which ey were held by the rest of the population. In some laces they seem to have had at a remote period churches r chapels of their own—at least, the ruins or traces of nall ecclesiastical buildings are found which popular umour ascribes to them. In most of the churches of the est and south-west of France there is a small entrance oor (now often walled up) called the Cagots' door, quite stinct from the principal entrance. There is also a divi-on of the church at some distance from the portion of the urch occupied by the congregation, which is understood have been set apart for the Cagots, and a small holy-ater basin for their separate use, the latter generally earing traces of ancient sculpture. The Cagots were for-idden expressly to enter by the same door as the rest of e congregation, or to introduce themselves into any other art of the church than that set aside for them. The late r. G. E. Street, R.A., believed that although Cagots did ot live in England, yet that lepers were in this country ept under in similar restrictions. He concluded that chnoscopes or low side windows should be called 'Eucharistic windows," as they were intended for the dministration of communion to people who were com-elled to keep themselves apart from the congregation like e Cagots of France and Spain.

Early Architecture of Greece.

The Odyssey enables us to understand what the palace f a king or a tribal chief was in those remote days. It as nothing but a wooden cabin, somewhat larger than ose used by ordinary mortals. The temples of the gods ad a similar origin. All races of men were at first con-nted simply to provide for the use of their gods enlarged abitations of the construction with which they had become miliar in building their own dwellings. But this very crease in size gave a peculiar character to the buildings. omer expresses sincere admiration of the great wooden ut of Alcinous. Such admiration was the cause of artistic onceptions. The increased scale of which we speak rought forward in a peculiar manner some of the features f the common architecture; it gave rise to impressions hich could never have been produced by the sight of the rdinary domestic dwellings, precisely because they were rdinary. These impressions were more or less vague, but was enough that they were awakened at all, and that ttention was directed to the new aspects of structures, so at the imagination, with logic to help it, could push on om point to point by a series of experiments, the aim of hich was to achieve by means of the completest possible greement between means and end the fullest manifestation f the impressions received. So soon as this point was eached architecture ceased to be an industry and became n art. Convenience and utility were no longer its sole bjects. It strove to convey an idea and to excite admira-on; it was not content with size in itself, but endeavoured produce an impression of vastness superior to the mere act of size.

Scottish Crosses.

Scottish crosses differ wholly from the English. They re of two kinds: the pillar crosses of the eastern coast, vherein we may include, as identical in character, several n the north of Ireland and the Isle of Man; and, secondly, he crosses of the Irish pattern. The pillars are lofty quared shafts of granite, or some very hard stone (some-imes of more than one piece, mortised into the other), from to 20 feet high (that at Forres is 25 feet high), set upon edestals of two or more stairs, tapering somewhat pwards, with squared heads. A cross of the Latin shape s conspicuously inscribed on the whole extent of the vestern face. Equidistant on the centre and four limbs are enerally five round bosses, representing the sacred vounds; and at their intersection the limbs repose on a ircle or circular disc—an arrangement common on some f the Runic monuments of the Danes and Nor-vegians, and resembling the Irish pattern. Their faces nd sides are divided into compartments by lines, and re profusely and elaborately decorated with the well-nown ribbon or mat-work pattern, chain and network diapers, and other devices of great variety. In general they present few representations of Scripture subjects; but many contain representations of groups of men engaged in combat; of ships, animals, fishes, serpents, emblematical and historical of the events and persons intended to be commemorated, as was often the case in the ancient sepulchral monuments of Rome, and sculptured with considerable skill. Of these in a few instances the subjects are sacred; but in such case the cross is of the Irish or Saxon pattern, and erected by another hand. The narrower sides are, in the Isle of Man, and two or three other places, occupied by Runic inscriptions, relating the occasion of the erection. They are often truly splendid monuments.

Mediæval Halls.

In the later feudal times the spacious lofty hall, left open to the roof, had its windows placed high from the floor and filled with oiled linen or louvre boards, or occasionally with painted glass. The floor of stone or earth had a part at one end raised a little above the general level and laid with planks. On this platform or daïs stood a massive table and ponderous benches or forms and a high-backed seat for the master under a canopy. On the hearth, in the middle of the hall, were placed the andirons for supporting the ends of the brands that were arranged by means of a heavy two-pronged fork, the type and predecessor of the modern poker. On the roof over the hearth was a turret or louvre, filled with boards arranged so as to exclude rain and wind and permit the escape of smoke, and this was sometimes an object of considerable architectural beauty in the external aspect of the building. In this gaunt and aguish apartment, heated by a single fire, the company were in a position not much different from what they would be in the open air; not a particle of heated air could add to their comfort, for as fast as produced it escaped through the louvre; light was the only solace the greater number could derive from the blazing fuel, and the few who were in a situation to feel the radiant heat were incommoded by the current of cold air sweeping like a hurricane along the floor towards the fire. From the height of the louvre and low temperature of the smoke, few of the buoyant flakes of charcoal found their way into the atmosphere, and the larger the bonfire the thicker was the layer of soot deposited on each individual. Boisterous weather also brought its annoyance. Had the fire been made in an open field, they might have moved to the windward of the smoke, but in the hall, where could they flee to from its miseries? The country houses of inferior landholders and farmers were generally one storey high. If they were built with two storeys, the roof was so deep as to reach to the ceiling of the lower room. The hall and kitchen forming one apartment, and roughly plastered, was open to the timbers of the roof, and sometimes had a louvre and a window that could be closed with a shutter. When these houses had a room to sleep in, young and old reposed in the same apartment and several in one bed; servants made their beds on the floor in the kitchen.

Harmony in Architecture.

There are two sorts of harmony or concord in architecture. The first signifies agreement in composition, the other agreement in taste and style. There can be no concord in the plan of a building when the interior is after one fashion and the exterior after another. There can be no concord in the elevation of a church which has several orders arranged on its frontispiece, while the inside can only allow of one. There can be no concord in the decoration of a palace the front of which is ornamented with columns that are often useless, and the details of which present, by their over-simplicity, a glaring contrast between the florid and the mean. This want of concord is very remarkable in many of the most important modern monuments of art, where the columns only appear like ornamental excrescences, placed on purpose to cause the nudity of the rest to be more sensibly felt. The second kind of concord of which we have spoken, and which we termed agreement in taste and style, depends upon the union of the arts amongst themselves. It exacts from the artist a practical knowledge and habitual exercise of all those other arts that contribute to the embellishment of architecture. In edifices it produces that identity of character and that unity of style and manner which give to the erection the appearance of having been the work of one man, and which leaves room for doubting from the air of similitude which reigns between the decoration and the construction whether the decorator was the architect or the architect the decorator. This perfection is to be met with in the fine works of the ancients. As the arts were then united amongst themselves, so one was scarcely ever followed to the exclusion of the others; whether the architect executed all the parts of an edifice, or whether he confided their execution to co-operators, one understanding alone always presided over the construction of the work; and, as one mind had directed the whole, the effect was single and the impression undivided. With the moderns it is not thus; every art in its practice is isolated from the rest. Architecture in particular must lose by this system. From it proceeds those dissimilarities often apparent in edifices, the construction of which was given up to artists acting without concert, and often without any knowledge of each other. It is not only by the employment of different artists without any reference to a leading or master artist in the first erection of a building that discord instead of concord is produced; the same result is the effect of repairing a building, either at different periods by the same artist, or by different artists at the same period, and still more so is this end produced by the employment of different artists at different periods. Unity of mind and unity of action and direction can alone produce concord either in music or in architecture.

Early Scottish Habitations.

The dwellings of the earlier period seem to have been mere pits dug in the earth, numerous remains of which in groups yet exist in Aberdeenshire on the banks of Loch Fine, in Inverness and Caithness. Thus near Aberdeen are some hundreds of circular earthen walls scattered over more than a mile in extent, 2 feet or 3 feet high, from 10 feet to 20 feet in diameter, within which are found charred wood ashes and decayed bones and vegetable matter. Others, probably summer dwellings, exhibiting like relics, are mere flat pavements about 6 feet in diameter, over which was erected the summer booth or shed. But, of all, those denominated Weems are the most remarkable, which are found in great numbers in Scotland, especially in Aberdeenshire. They are generally constructed underground or under artificial heaps of earth or large unhewn stones, sometimes in several apartments in an area occasionally 30 feet wide by 8 feet or 9 feet in breadth, with narrow passages about 3 feet high communicating to the small side chambers. Within have been found wood or peat ashes, earthen vessels, horns, bones of deer, horses, oxen and other animals, querns or ancient handmills of stone, with instruments of bone and flint, stone celts and bronze swords. They agree very nearly with the description given by Tacitus of the winter dwellings of the Germans, whom he represents as digging caves in the earth where they lay up their grain and retire for the winter. A remarkable fact is that their roofs have converging walls, being formed of flat stones made to overlap each other till they meet in the centre and form the primitive arch, a fact which at once demonstrates their identity in construction and probable contemporaneous erection with St. Columba's house at Kells, St. Kevin's Church at Glendalough and many similar structures mentioned by Petrie in his "Ecclesiastical Architecture of Ireland." The doors to these dwellings are marked by two upright stones, and enclosures, apparently for cattle or for their summer tents, are in the neighbourhood. Similar structures, in one of which was found an ancient torquated ring, exist in the Orkney Isles on the side of a hill by the sea-shore, where the ground has been excavated to the surface of the rock, leaving pillars upon which are placed immense slabs of stone. Dwellings of a cognate kind but with wooden rafters have been found in Forfarshire, Perthshire, Mid-Lothian and other places. A variety was disclosed by railway operations at Newstead, where among its contents were various carved stones with the usual cable or fillet pattern of Anglo-Roman sculptors. Among these primitive dwellings must be reckoned the very singular stalactite cavern called Kent's Hole, near Torquay, discovered by the Rev. J. M'Enery, wherein were found rude articles of pottery, the bones of animals, bone skewers or pins, a stone hatchet, many flint arrow-heads and a human skeleton laid at length; a boar spear of iron and another blade were found in another corner.

No. 119 High Street, Croydon, a handsome old house, one of the towns few remaining links with the early seventeenth century, is to be offered for sale next month. It is called Wrencote, is about 200 years old, and the architecture is ascribed to Sir Christopher Wren. Many residents are pleading for the preservation of the house.

GENERAL.

Mr. George Wade is to receive sittings from Queen Alexandra for a statue, which is to be presented to the London Hospital by the Governors and staff in commemoration of Her Majesty as president of that institution. Mr. Wade has also been commissioned to execute a statue, with panels, of the Prince of Wales, to be erected in Bombay to commemorate the royal visit to India.

The Lord Provost's Committee of Edinburgh Town Council last week discussed the proposal to found an art school in the city. It is understood that the Government are willing to contribute a certain sum towards this object on the understanding or undertaking that a considerable contribution is made by the city. It was stated that the Government were prepared, in the event of Edinburgh not doing something, to hand the sum over to Glasgow. Ultimately it was agreed to remit the matter to a sub-committee to consider as to the attitude to be taken up by the city.

Messrs. Christie sold by auction some old Burgundian tapestry—a set of four panels of the first year of the sixteenth century. Three of them were 4 feet in length, their width ranging from 10 to 13 feet. The fourth panel was considerably smaller. With this lot was sold two upright panels, bearing figures and inscriptions. The bidding ceased at 4,500*l.* A set of five panels of old Beauvais tapestry brought in 700*l.*

The Jury for architecture at the Salon during 1906-7-8 will consist of MM. Raulin, Vaudremer, Girault, Pascal, Daumet, Moyaux, Laloux, Nénot, Mayeux, Julien Guadet, Deglane, Paulin, Redon, Bonnier, Lambert, Esquié, Bœswillwald, Cordonnier, Defrasse, Bernier, Eustache, d'Espouy, Blavette, J. Lisch, Tournaire, Louvet, Guilbert, Roussi, Marcel, André, Yvon, Alfred Normand, Ch.-A. Gautier, Hannotin, Sortais, Loviot.

An Architectural Society has been founded in Halifax, of which Colonel Gray has been elected president and Mr. C. J. Fox secretary. A committee has been appointed to consider a revision of the local by-laws.

A Committee has been formed for the erection of a memorial to the late M. Paul Dubois, the sculptor, at Nogent-sur-Seine, his native place. The work will be confided to M. Alfred Boucher and M. P. Bœswillwald, the architect, who is a nephew of Dubois.

Mr. G. A. Hamilton Dickson, past president of the Transvaal Institute of Architects, is acting as assessor in a competition for the synagogue proposed to be erected at a cost of 25,000*l.* for the Witwatersrand Old Hebrew Congregation.

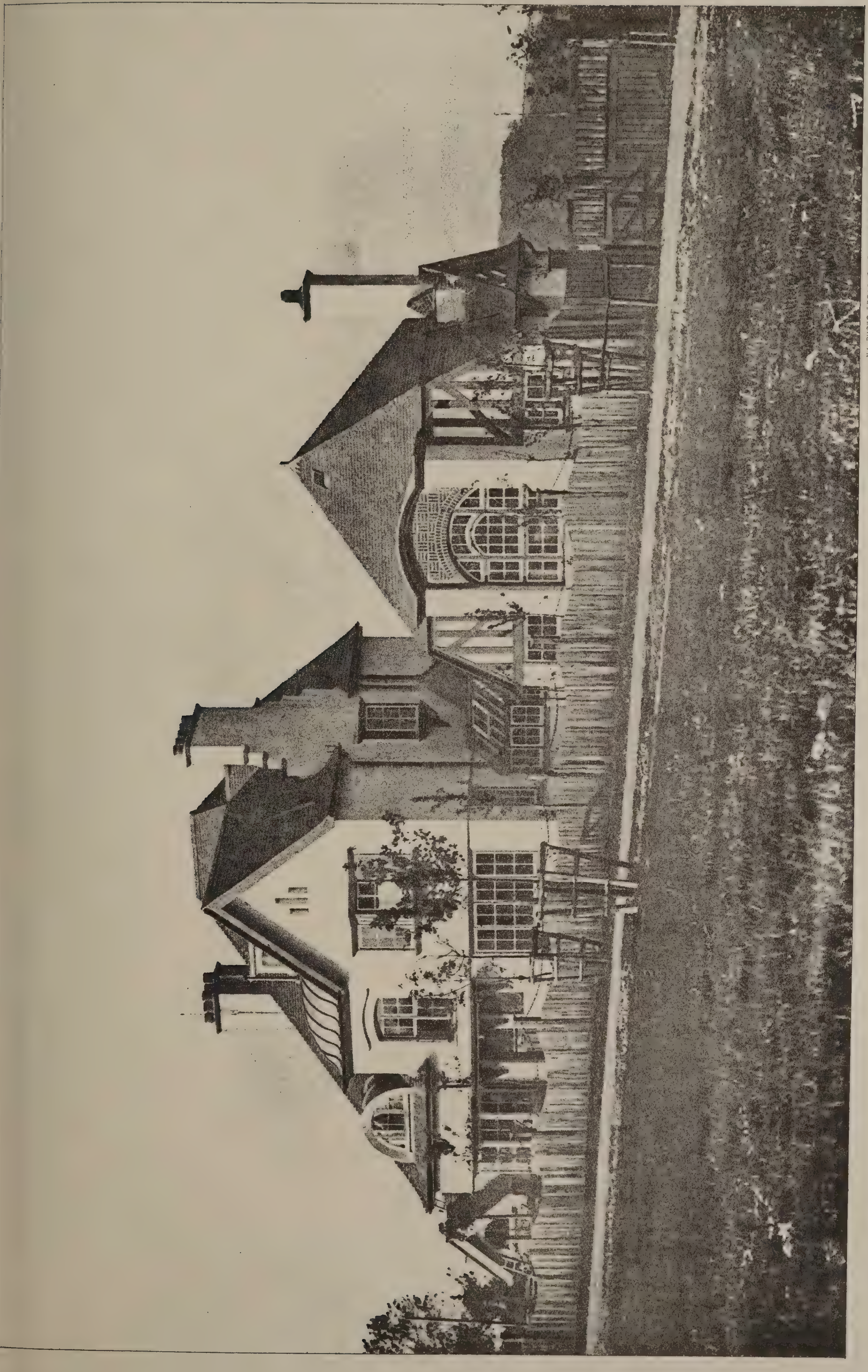
The Liverpool Education Committee are about to organise a competition, confined to architects practising in Lancashire and Cheshire, for plans and estimates of the secondary school to accommodate 400 girls in Aigburth Vale, with premiums of 50*l.*, 30*l.* and 20*l.* A proposal to make the competition unrestricted was rejected.

A Memorial Tablet to the late Mr. Henry Willett was on Monday unveiled in the Brighton Museum, to which he was a generous contributor.

Mr. Charles Herbert Lea, of Hampton-in-Arden, architect and surveyor, member of the firm of Messrs. Lister Lea & Sons, of Cannon Street, Birmingham, who died last October at the early age of forty-five, left estate valued at 12,235*l.* gross and 8,364*l.* net.

State of Winchester Cathedral.—A portion of the spandrel of the vaulting in the north-east of the retro-choir of Winchester Cathedral, closely adjoining Bishop Waynflete's chantry, fell during Monday night. There is a hole through the roof, and above half a load of masonry came down. Other portions of the adjacent vaulting are in danger, but are being watched. The fall is in the portion of the vaulting which was believed to be the soundest, as it is on the south side.

The Registration Sub-Committee of the Royal Institute of British Architects, consisting of the President, Sir Aston Webb, R.A., Mr. Edwin T. Hall, Mr. T. E. Collcutt, Mr. John Slater, Mr. J. S. Gibson, Mr. A. W. S. Cross, Mr. W. H. Seth-Smith and Mr. George Hubbard, and appointed by the registration committee "to take evidence for and against the principle of registration and to suggest the course of procedure to be adopted at the general meeting when the present scheme of registration comes up for discussion," desire to state for the information of members that they have held twelve meetings and taken the *viva voce* evidence of twenty-one architects practising in London and the provinces, a verbatim report of which has been preserved, and they hope soon to be in a position to report to the registration committee.



HOUSE ON GRIMM'S HILL, GREAT MISSENDEN.

J. BRUCE MERSON, Architect.

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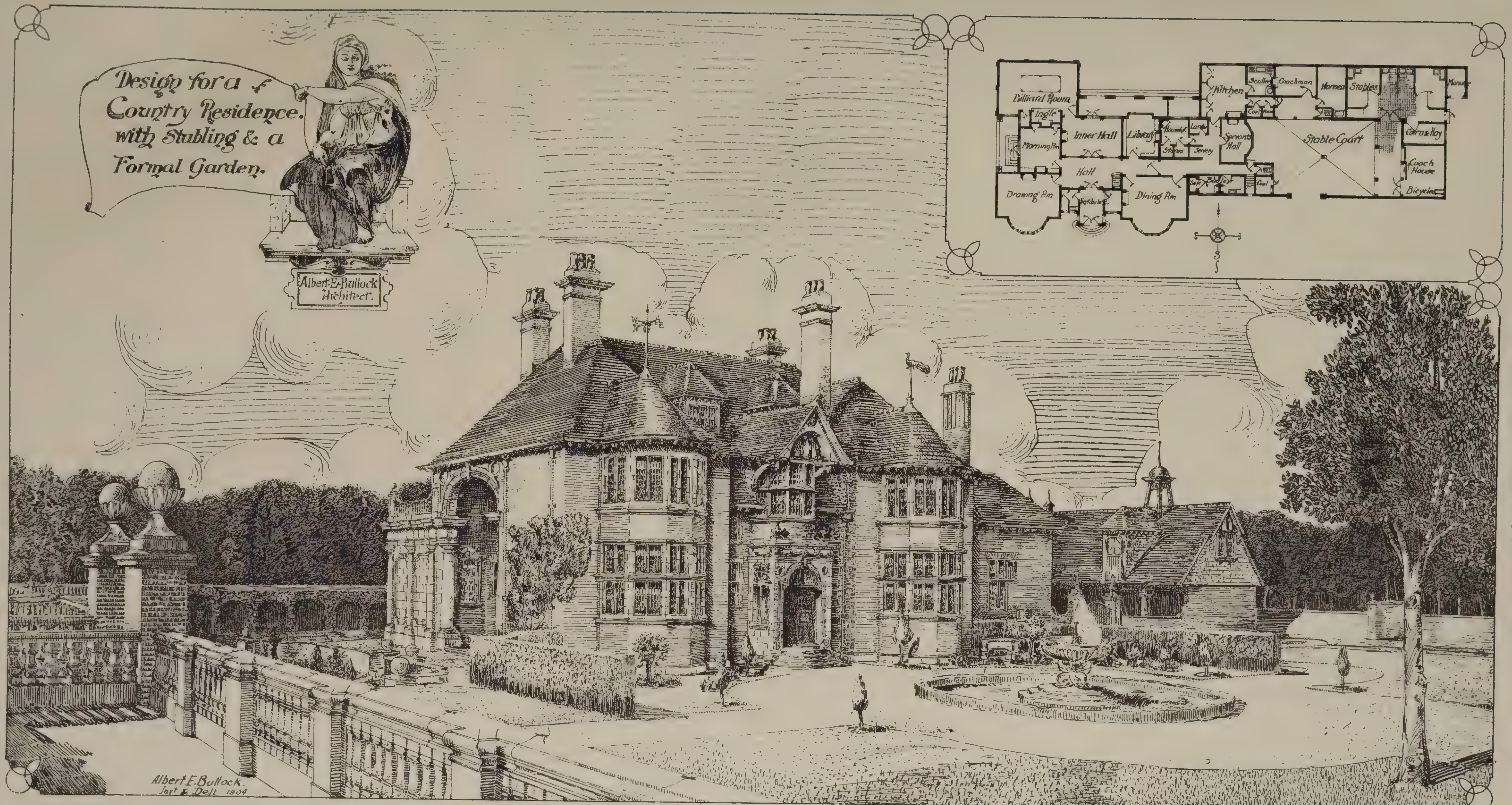

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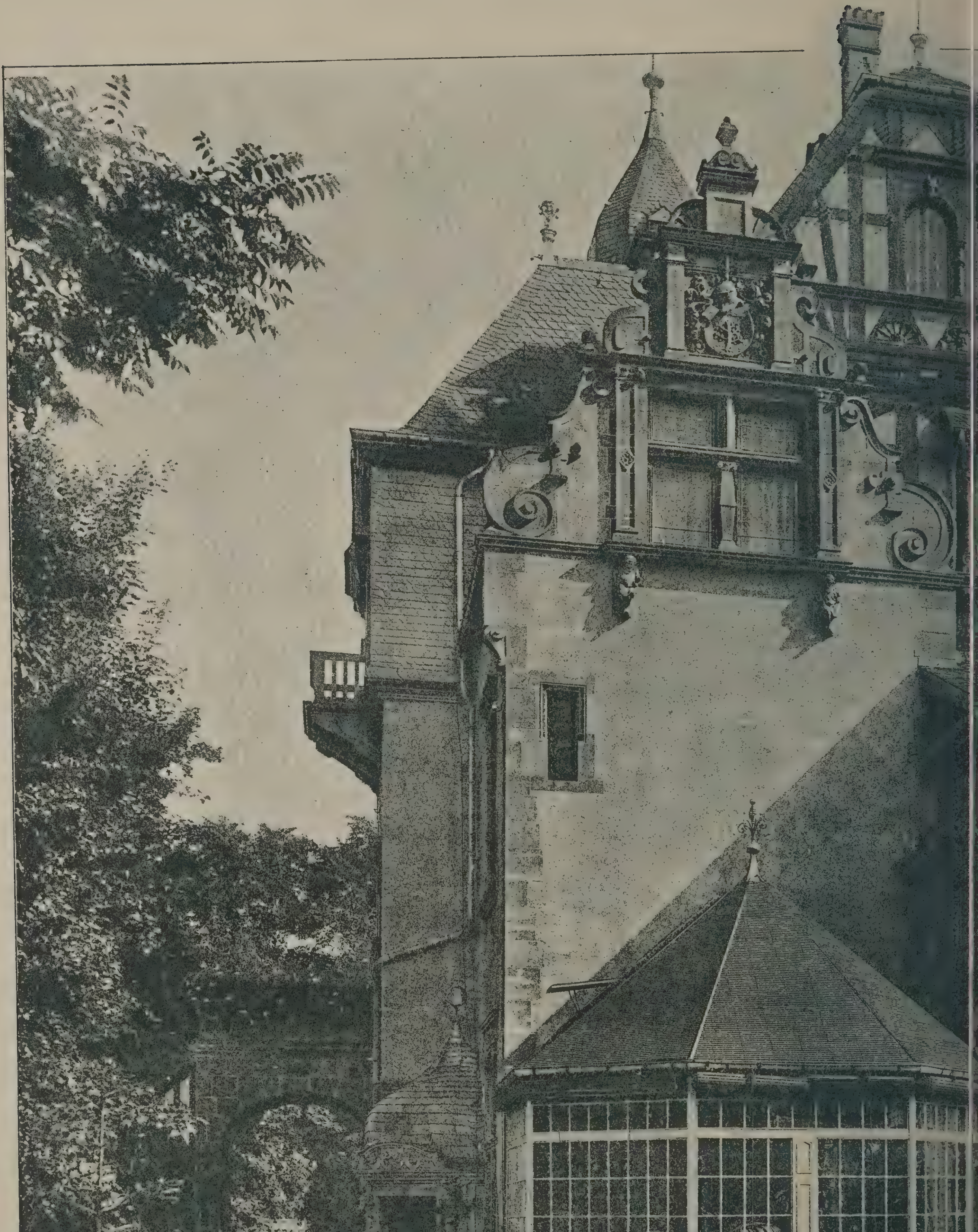

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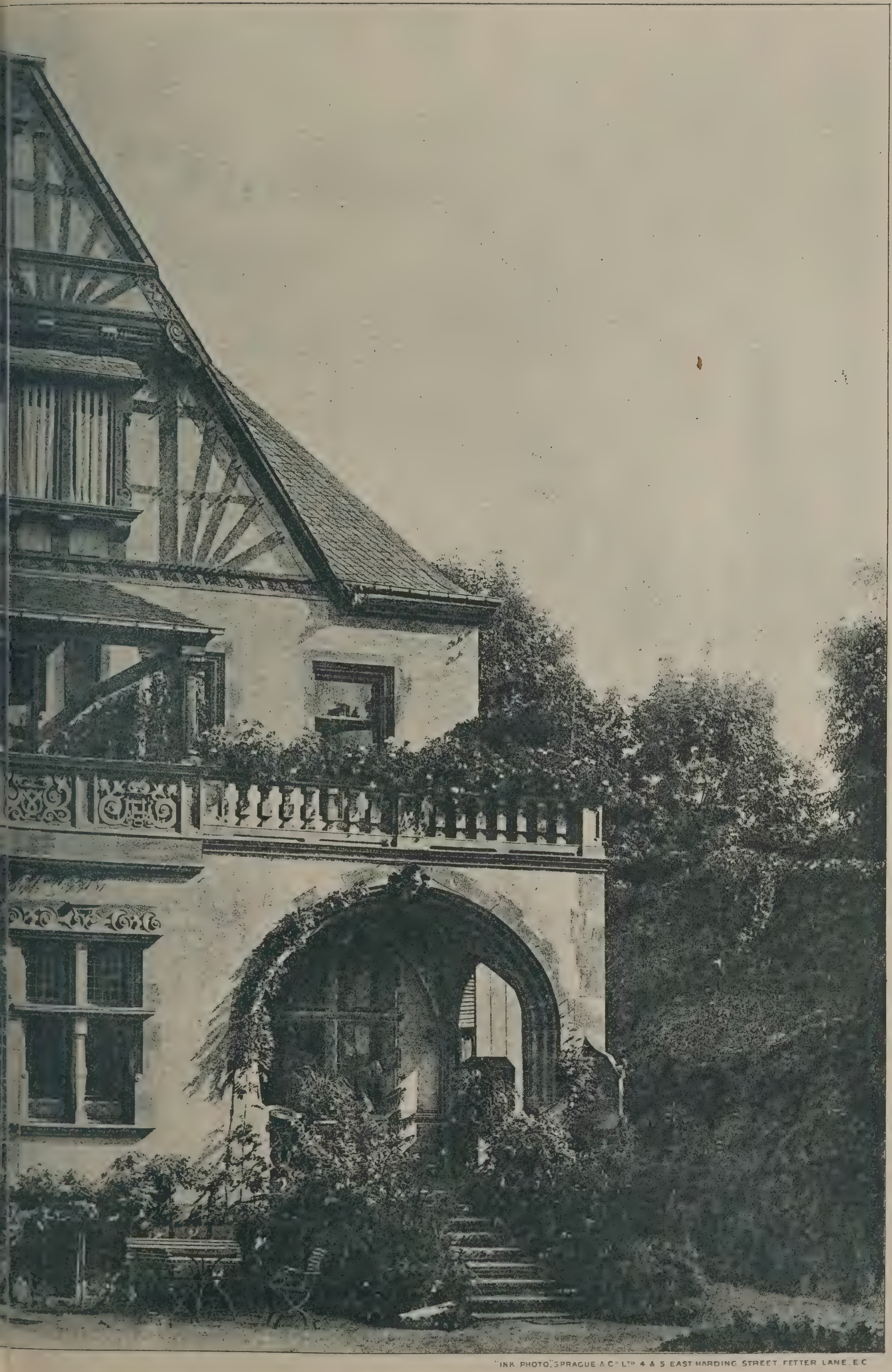

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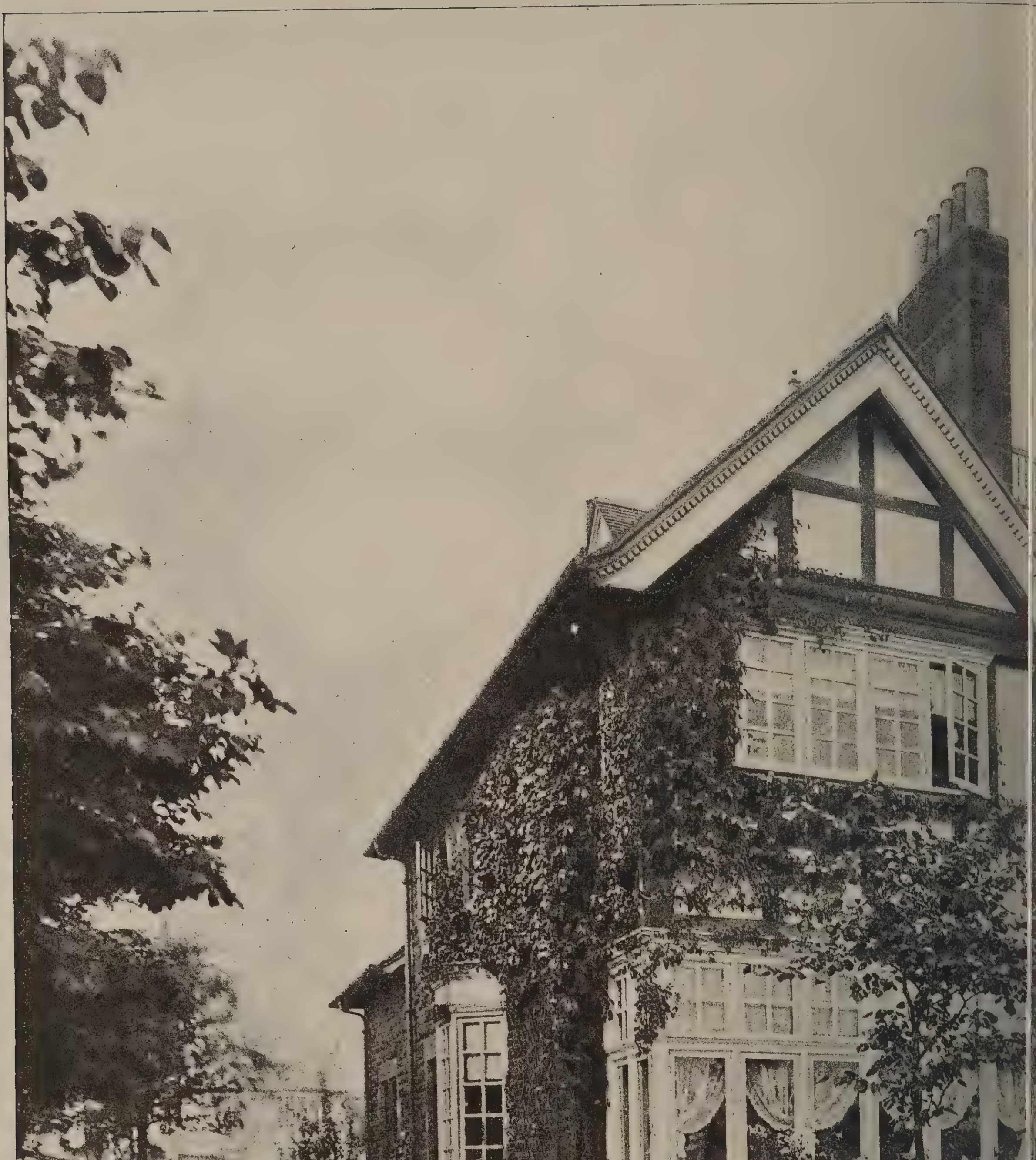

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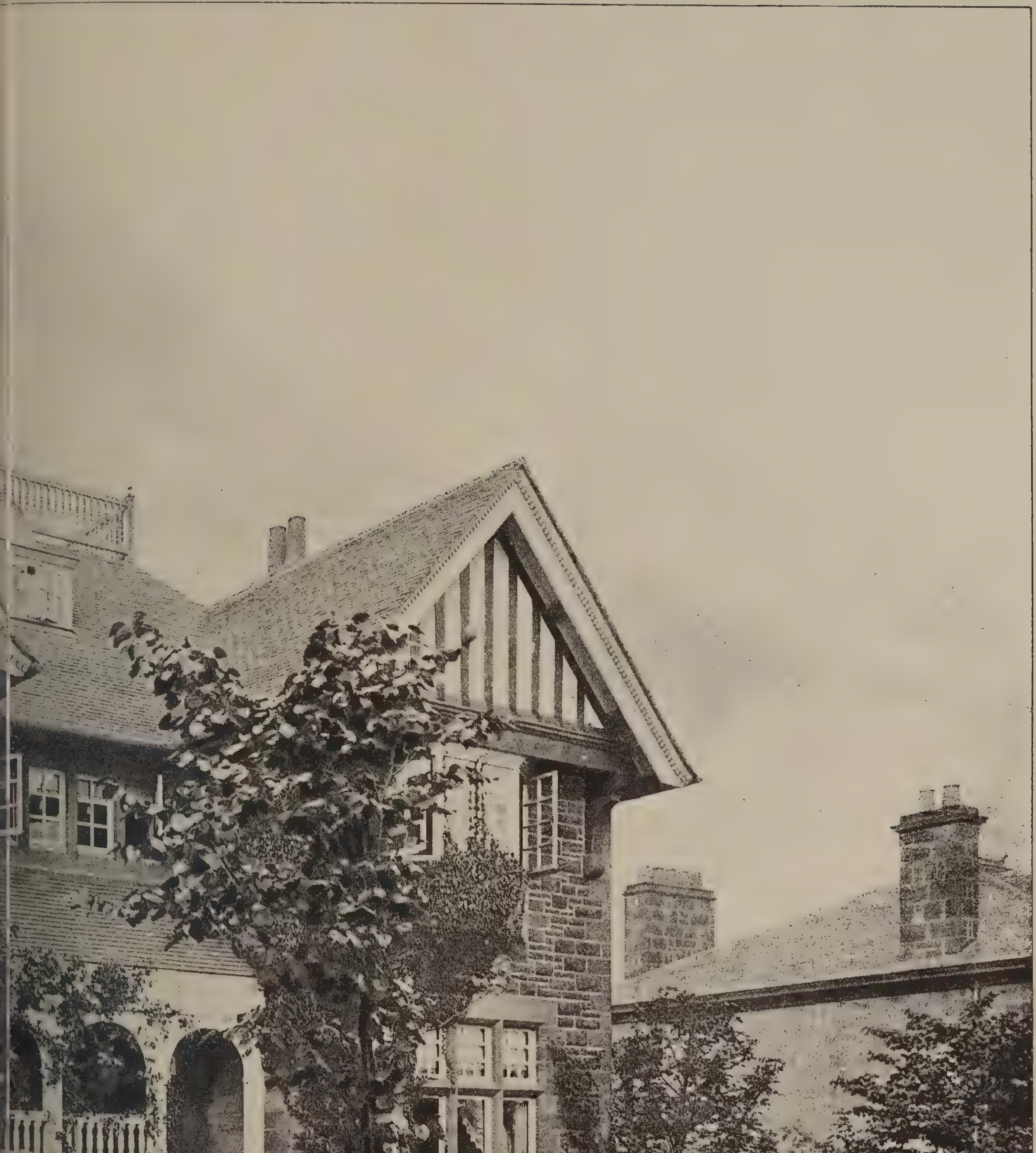

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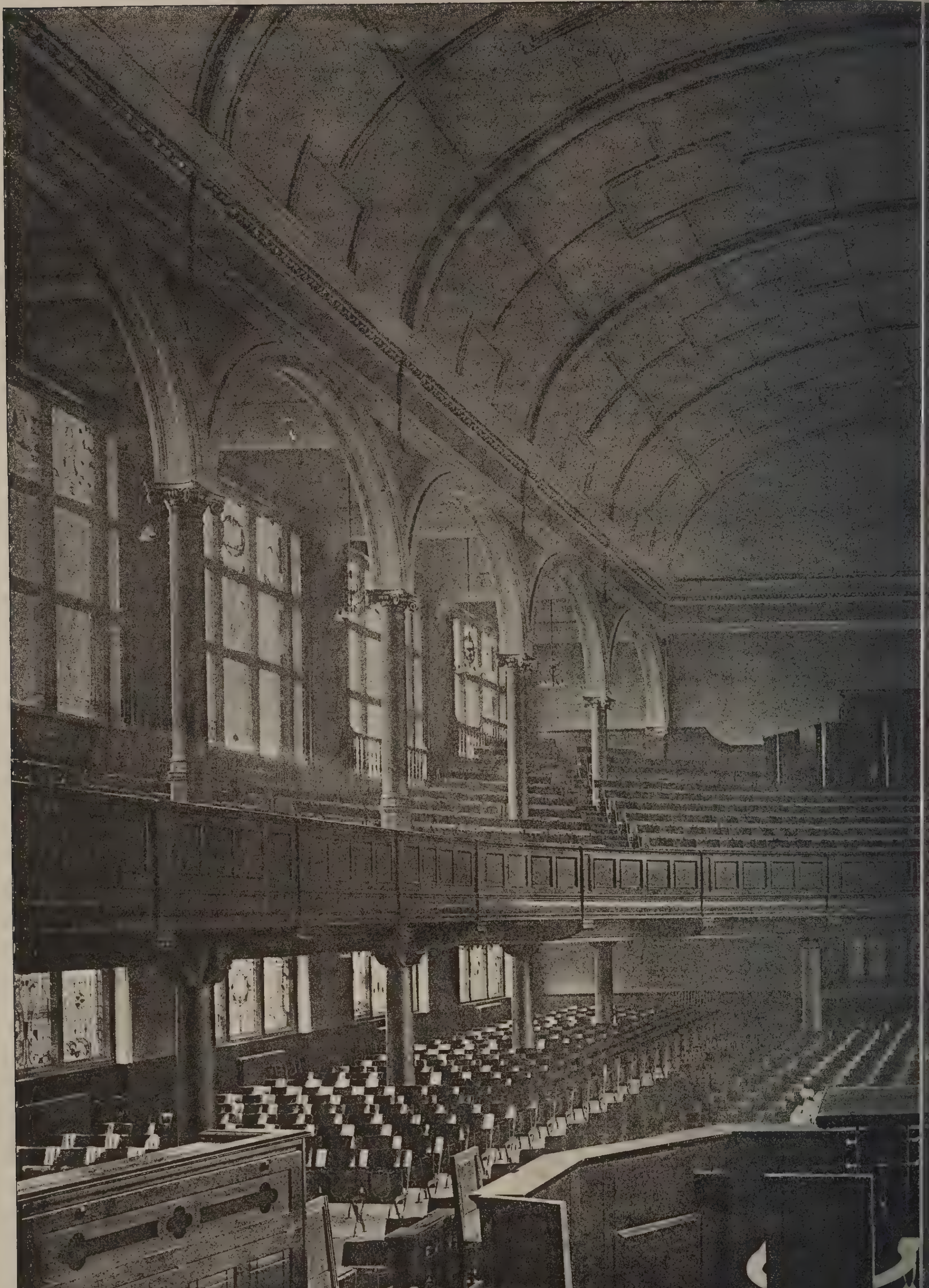

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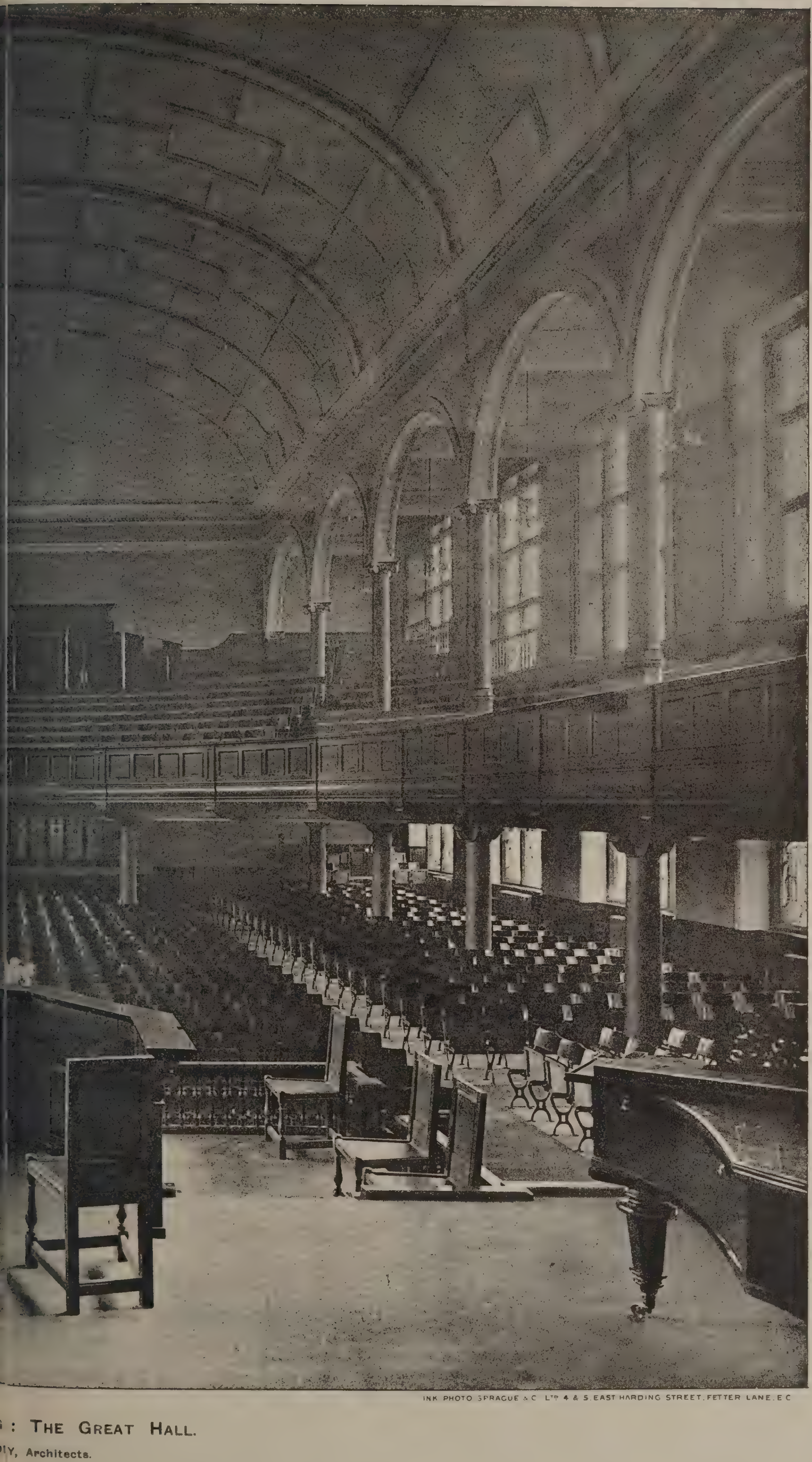

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The Architect.

THE WEEK.

The island of Cos is one of the most remote from the mainland of Greece, and it is outside the line of limitation in the Ægean Sea. It is near to Halicarnassus on the coast of Asia Minor. The Knights of Rhodes possessed a castle on the island, and it was supposed that the buildings were partly constructed out of the Temple of Æsculapius. That deity was worshipped on the island, and under his patronage was a school of medicine with an anatomical museum. Among the great men who were natives was the painter Apelles. On Friday last a lecture was delivered at the Royal Institution by Dr. R. Caton on the recently-discovered Health Temple. Messrs. Paton and Hicks had suggested a site for the temple, but the excavations were carried out by Professor Herzog. The temple was arranged on three terraces at the side of a mountain. Evidently attached was a hydropathic establishment, to which water was conveyed by earthenware pipes. There were also consulting rooms and operating-rooms. On the second terrace was a large altar and near it an Ionic temple. On the site of the latter was a marble coffer which Professor Herzog believed was the treasure chamber, but which Dr. Caton thinks was the receptacle for the sacred serpents connected with Æsculapius and which modern sanitarians adopt as symbols. There were, moreover, houses or hospitals for patients, with dormitories, where they used to expect visions of the deity and visits from the serpents. Walter Pater has described similar treatment as adopted in Italy. Cos must have been renowned for works of art, but they have long since vanished. Of the buildings only the foundations remain, with a few architectural fragments.

It is at all times pleasant to employ local labour in carrying out an engineering or building contract, and at the present time there are several additional reasons in favour of that arrangement. But the question must always arise to what extent local labour is to be favoured. A private gentleman erecting buildings can, of course, pay any price he desires. But are local authorities justified in imposing a heavier burden on ratepayers than is necessary? This crucial question has arisen in Maidstone. A few weeks back the lowest tender for sewage-disposal works, amounting to 41,482*l.* 5*s.* 6*d.*, was accepted. But the contractors discovered they had made a mistake, and could not carry out the work for that sum. Applications were then made to the other contractors. One reduced his tender by 914*l.*, another by 1,000*l.* The lowest obtainable was Messrs. Underwood's, of Dukinfield, amounting to 44,310*l.* 18*s.* 9*d.* The reduced tender of Messrs. Wallis & Sons, of Maidstone, was 47,400*l.*—a difference of over 3,000*l.* Some members advocated that, owing to the prevailing distress the local tender should be accepted; but it appears that the extra amount would mean a 5*d.* rate. Every member wished that Messrs. Wallis should have the work, but their duty to the electors compelled the majority of them to vote for the stranger.

In the two cases of James L. Denman & Co. *v.* Westminster Corporation and J. C. Cording & Co. *v.* the Same, the construction of Michael Angelo Taylor's Act was again before the Court. The London County Council and the city of Westminster required a strip of land for the purpose of widening Piccadilly. The amount they required for this purpose was a strip of about 27 feet deep. Upon this strip was a building which occupied the whole of the strip, and, in addition, the ground adjoining to a depth of 30 feet, making in all a depth of 57 feet. It so happened that the construction of this building was such that it was possible to remove the 27 feet required and leave the remaining part of the building standing as a complete building. Buckley, J., therefore held that the whole could not be taken under the Act, but only the part actually required for widening the street. A local authority which takes land under this Act are exercising powers which are in their nature judicial. They must come to an honest decision as to the part of a property required for widening, and for widening only. They cannot seek to obtain under the powers given by the Act a larger quantity of land than that actually required for widening the street, upon the plea that the advantageous disposition of such extra land will diminish the cost of widening the street, and so save the pockets of the ratepayers. A witness called for the defendants said that it was not uncommon for a local authority with this object in view to acquire under the Act more land than they actually wanted for widening a street. Buckley, J., said that he was shocked at this statement. The local authority were entrusted with statutory powers to be used for the statutory purpose and for no other.

A man who in his fortieth year was able to win the position of assistant surveyor and deputy-engineer to the Drainage Board of an important city like Birmingham must have been distinguished for skill. Afterwards he obtained the highest post of city surveyor. That was the summit of the career of Mr. John Price, who died after an operation on Tuesday morning. He had passed step by step up the professional ladder, and if he cared to accept them he might have looked forward to still higher appointments. He began with winning an exhibition for engineering in the Victoria University; next he was articled to Mr. Hartley Watson, and then became a contractor's engineer, one of the best ways of acquiring practical knowledge. Afterwards he was an assistant engineer and then resident engineer in Barrow. He next served the sanitary authority at Barton, the Toxteth Park Local Board, and the Liverpool Corporation. When the late Mr. W. S. Till, after serving in Birmingham for nearly half a century, desired to have someone to co-operate with him, Mr. Price was unanimously selected out of thirty-four candidates. In a couple of years he became city surveyor. During eight years he has carried out most important duties in drainage and street works, and the City Council on Tuesday recorded its appreciation of the ability and energy displayed by him in the duties of his office. He was only in his fifty-first year, and for more than thirty of them his labours have been arduous.

A contract was entered into between Messrs. Low & Thomas and the County Council of Dumbarton for the construction of a storage reservoir on the Finlas Burn, near Luss, Loch Lomond, for the Vale of Leven special water supply district. On making inquiries at the site it was stated by one of the Council's engineers that clay for the puddle wall was to be found on the ground. We need not say how important is that material for such works. But Messrs. Low & Thomas agreed with the Council's officer, and made out their tender on the supposition that suitable clay was available. After the works were commenced the Council's engineers refused to allow the local clay to be used, and insisted on clay being brought from a distance. If that arrangement had been understood beforehand the amount of the tender would be doubled. They accordingly applied to the courts to have the contract rescinded on the ground of an essential error. On behalf of the County Council it was argued that the work was undertaken by Messrs. Low & Thomas at their own risk, and that they were aware of what was required of them. After consideration the case has been withdrawn and new tenders will be sought as quickly as possible. It is not easy to demonstrate in a Court the differences between clays in suitability for puddle, and the inquiry would necessarily be costly. All the parties in the case have been well advised to avoid so difficult a task.

have received the approval of the Board of Trade is accordingly rather limited. As examples of mechanism meters in general will bear close examination. No other aid to measurement requires such manipulation. One of the most interesting applications of meters is for what is known as the Hallé tariff system devised by Herr Jung. The tariff is as equitable towards shopkeepers and occupants of private houses as towards consumers on a large scale. Mr. Solomon gives the following example of the working of the system, by which a high rate per unit is charged up to 300 hours, and afterwards all units come under a low price :—

> Taking a house, for example, in which sixty lamps are installed, and in which the maximum number in regular daily use is six, the hour meter is set to register with three lamps, so that the consumer will reach the hours required with three lamps in use. He can, if he so desire, obtain his current at a relatively cheap price by keeping only three lamps burning during the 300 hours. Afterwards, for the remainder of the financial year, he can burn more or fewer than the three lamps, as he is then no longer bound to any number. The consumer has, therefore, only to watch the hour meter until it has reached the 300 hours. As the hour meter is in each case set to half the recurring maximum daily used by the consumer, each consumer will obtain current at a low price, provided his yearly use of current extends for longer than the 300 hours. If a consumer does not reach the 300 hours during the financial year, he has to pay for all the units he consumes during this year at the high rate. A case of this sort rarely, or never, happens, as the 300 hours are reached by all the different classes of consumers. For instance, offices take current during the year for about 400 hours, shops for about 700 hours, hotels and public-houses for about 2,000 hours, and private houses for about 1,200 hours. Power consumers who take current daily for one hour and longer also reach the 300 hours, as in their case, too, the hour meter is set to half the maximum horse-power in regular daily use (not half the maximum installed), and the average horse-power is above this amount. The results obtained with this tariff are very satisfactory, and it has the advantage of simplicity and of being easily understood by the average consumer.

For everyone who employs electricity, and has therefore to select a meter, Mr. Solomon's book will be serviceable, as the economy of the power depends in a great degree on the quality of the meter that is used. It is a useful addition to the publishers' valuable series of standard technical works.

The first volume of the work on "Modern Buildings: their Planning, Construction and Equipment," which is edited by Mr. G. A. T. Middleton, has been brought out by the Caxton Publishing Company. In the arrangement an excellent system has been adopted. The student cannot be terrified on starting by endless details about the mathematical theory of construction or the no less involved history of ancient architecture. What may without offence be called the Squeers System, the practical mode of teaching, is adopted. No sooner is the student initiated into office practice and draughtsmanship by the first chapter than he is shown how he can apply his skill in the planning of country houses and cottages, and in ordinary constructional details. Readers who might be disposed to abandon architecture from a conviction that they were never likely to be employed in designing an Egyptian temple or a wonderful wooden roof like that of the Riding School at Moscow, will find that they can become useful in aiding the carrying out of work of a more modest sort. Buildings and the details of their construction are so closely connected in the pages as to appear identical, and that is a conclusion which students often fail to draw from other books which profess to treat of building, designing and history. Mr. Middleton has been able to obtain examples from living architects of cottages and mansions, and the book is therefore suggestive of practice that is absolutely modern and English. Whether in the end the work will be above or below other treatises we need not inquire. But we know of no book in English which is likely to be so efficacious for those who wish to learn the shortest route to the knowledge required in ordinary practice. The editor has worked hard to make it deserving of success.

"Dilapidations" has been as successful as any of the other text-books by the late Banister Fletcher. The sixth edition, which, like the others, is published by Mr. Batsford, has been practically rewritten, so as to bring it up to date, by Messrs. Fletcher, and if our memory is not at fault the work has been vastly improved. The "questions and answers in points of practice" is now a more varied chapter, and helps to give actuality to other pages. A book of this kind should not be confined to the use of architects and surveyors. Occupants of houses as well as owners should employ it as a guide, for many costly law suits would be avoided if the information given in the pages was more generally diffused. It is not too technical for ordinary people to comprehend.

SOCIETY OF ARCHITECTS.

THE following are the regulations and conditions for the competition for the architectural scholarship. Candidates for the architectural scholarship shall be persons who are not more than nineteen years of age at the date of the examination, and who are receiving, or are desirous of receiving, a course of architectural training preparatory to their eventually adopting the profession of an architect. There will be a competitive examination in the form of an essay on architectural history, and a freehand drawing, held in London on May 10, entries for which must be made before May 1 on a form to be obtained of the secretary. No entrance fee is required. The award will be made by the Council subject to its approval of the manner in which the candidate proposes to utilise the scholarship, or alternatively to the candidate agreeing to such scheme as the Council may decide upon. The successful candidate will be required, before the award is confirmed, to produce to the Council evidence as to age, and make application for admission to the register of students. Should the holder at any time during tenure cease to be a student of the Society the scholarship will lapse.

The scholarship is of the value of ten pounds (10*l.*), and is tenable for three years, subject to the Council being satisfied from year to year with the progress made by the holder as set out in a form to be used in making application for renewal. The Council will disburse the scholarship on behalf of the holder, and should the scheme not call for the payment in one session of so much as ten pounds (10*l.*), the holder may receive the value of the balance in books or instruments.

The subject for the design competition of 1906 is a small country house of such accommodation as can be comprised in a cubical capacity of 60,000 cubic feet, the price allowed being 1*s.* per foot (3,000*l.*) measured from bottom of footings to half-way up roofs, excluding dormers and chimneys.

Drawings required are a complete set of working drawings to ⅛-inch scale, comprising plans of each floor and roof, sections, elevations, block plan (one-sixteenth-inch scale) showing drainage, and ½-inch details of hall and staircase and portion of front elevation. The materials proposed to be used to be noted on the drawings. The drawings are to be of such a character as would be required by a contractor to carry out the work, and are to be executed on not less than half double-elephant size sheets, mounted on strainers or millboard.

Candidates for the travelling studentship shall be persons whose names are on the register of students of the Society, and who have paid their subscriptions for the current year. The maximum age limit is 28 years. The competition drawings, upon which the studentship will be determined, must be delivered at the Society's offices not later than May 1, without name, motto or other mark of identification, and must have attached thereto a sealed envelope containing the competitor's signature and address appended to an attested declaration that the drawings are the candidate's unaided work.

The studentship is of the value of 25*l.*, and carries with it the silver medal of the Society. It will be awarded annually, the holder being required to undertake, between June 1 and October 1, a sketching tour of not less than three weeks duration. The successful candidate must, within fourteen days after the award, notify the secretary of the date of the commencement of the tour and its proposed locality, and will then receive the sum of 15*l.* A diary of the tour must be submitted with the measured drawings, sketches and notes, all of which must reach the secretary before October 1. Subject to the Council being satisfied with the work executed during the tour, a further payment of 10*l.* will be made, and the silver medal presented to the candidate at the first ordinary general meeting of the session. The right to reproduce the drawings is vested in the Council. The studentship may only be held once by the same person. A candidate who does not adhere to the conditions in every particular will be disqualified.

WINCHESTER CATHEDRAL.

A WINCHESTER correspondent who has obtained from authoritative sources details of the present condition of Winchester Cathedral, writes to the *Morning Post*:—

The reports which have been circulated during the past nine months concerning the ancient cathedral of Winchester have naturally directed public attention to the condition of this noble fabric and its venerable history. Alarming as have been the statements made, they have only served to point out what needs to be clearly emphasised, viz. that very serious trouble exists, and that its full extent cannot be ascertained at present. Fresh revelations are forcing themselves at every turn.

The fall of a portion of one of the spandrils perilously near the Waynflete Chantry last week was not anticipated by anyone, though it is well within the zone of the affected part. One writes "affected part" because it conveys to the mind that portion which is now a mass of timber supports, but really the cathedral is in such a thoroughly bad state of repair from end to end—excepting the nave, which Dean Stephens restored at a cost of 12,000*l.*—that it is difficult to point to any portion which is not really "affected." There are cracks everywhere; there are deflections from the perpendicular at almost every turn; the nave aisles leak and show signs of increasing decay; the west front is in such a bad condition that a timber protection has had to be erected to prevent any member of the public from being injured by falling stones; and the east end conveys the impression that it is weary of having stood for so many centuries and is desirous of detaching itself from the rest of the building. The whole trouble is the result of neglect in the past—neglect on the part of the custodians of the cathedral a hundred years ago, when the revenues were princely against what they are to-day.

The work which is now in hand was not taken up a moment too soon. On the best authority I am able to state that had the shoring-up of the building been delayed for another month or two in all probability the eastern end would now have been a heap of ruins. That would have been a thousand pities, for the portion in danger is one of the finest specimens of Early English work to be found in the kingdom. It was built by Bishop Godfrey de Lucy (1189-1204), and it is strongly characteristic of the age in which it was executed. The beauty of the details are undeniable, and one writer asserts that they influenced Richard Poore to use them as models when designing Salisbury Cathedral. De Lucy's object in enlarging his cathedral church by the addition of these eastern aisles and lady and other chapels was to provide space for the pilgrims who resorted to St. Swithun's shrine, which was placed in the centre between the Waynflete and Beaufort chantries. It was carried out by a confraternity of workmen, who were ordered to complete their labours within five years. Whether this restriction of time induced the builders to hurry their work unduly it is difficult to discover, but it is pretty evident that not enough attention was paid to the foundations. This part of the structure is said to be built upon piles, though at present, with the exception of an instance or two, piles have not been discovered. The whole of the ground, however, is not unstable. Peat on marl is the underlying weakness, and the peat, as disclosed by the excavations, is sodden, though not so much as in the days of De Lucy, for some of the present mischief has been caused by the drainage of the area. Gravel is found at 24 feet and continuous pumping has to be carried out.

The progress of the work is slow. A powerful engine pumps water at the rate of 20,000 gallons an hour, by which the 14 feet of water is reduced to two, but it is curious that this has little effect on the water a little distance away, and that the water in the crypt still maintains the level at which it has been for the past month. Underpinning is gradually going on. It is being carried out in 4 feet sections amid difficulties which are nothing short of colossal. Dangerous as is the process, it is not anticipated that there will be any other result than permanent security, though some experts in the locality are finding fault with this method of saving the structure. One finds an increasing volume of opinion in favour of following the Peterborough precedent of pulling down the structure, marking the stones and rebuilding the cathedral. Mr. T. G. Jackson and Mr. J. B. Colson, the architects engaged on the work, are, however, of opinion that underpinning will effectually achieve the purpose in view.

The fractures which have been disclosed are very serious. The most extensive is that which runs through the fabric from north to south, breaking, as it were, the backbone of the building. As Lord Grimthorpe found at St. Albans, the more the building is repaired the greater are the troubles that arise. Rottenness exists in the most unexpected quarters. Obviously the Grimthorpe method of dealing with this would be to pull down and build something else, but that would sadly interfere with the story which the historic stones speak. When the work at present being carried out was contemplated 11,000*l.* was the estimated outlay. Already about that amount has been received, but fresh complications soon doubled the 11,000*l.* required, and now 30,000*l.* will not be a halfpenny too much, even if it suffices. It would be perfectly easy to spend 100,000*l.* on the fabric and then not completely restore it. The remarkable aspect of the present work is that whatever is spent will be buried beneath the soil, and not a farthing of it will be seen above ground. Every precaution is being taken to preserve the building, and especially the beautiful chantry tombs of Waynflete and De Blois and the various monuments. After this work has been accomplished the west front must receive attention and then the aisles of the nave. The troubles of the Dean and Chapter are manifold, but they are hoping that a generous public, who would earnestly wish for the preservation of one of our most famous national monuments, within whose walls rest the dust of the Saxon kings, will rise to the occasion and relieve them from the heavy burden which they feel is already of too great weight upon their shoulders.

On Monday morning, by invitation of the Dean of Winchester, the Mayor and Corporation of the city visited the cathedral for the purpose of inspecting the works now being carried on. The Dean received the visitors in the south transept and afterwards in the chapter-room explained the trouble which had arisen in connection with De Lucy's part of the cathedral. He said that when the foundations were examined it was found that the fabric was resting upon no really adequate support, having been built on a comparatively thin stratum of chalk and marl. It was evident that the early Norman builders did not understand how to deal with difficulties of water. When they began the work on the south side they found to their great disappointment that the gravel dipped at that point, and instead of being at a depth of 16 feet it went down to 24 feet, and that meant so many more feet of water to contend with. It was hoped that the gravel bed, which rose sharply within a few yards, would be maintained, and that the west end of the cathedral would be built upon solid gravel without water. He was afraid that they had wasted time, money and labour in trying to deal with the water, but now that they had a steam-pump 14 feet of water was reduced to 2 feet in a quarter of an hour. That enabled them to proceed more easily with the work. The effluent was quite clear, which showed that they were not drawing mud from the foundations. They hoped to finish underpinning the south-west corner this week. They had decided that they must underpin the north side, the wall of the south side of the presbytery and the east wall of the south transept. All the cracks they had found had simply been hidden from view by mortar placed there by a predecessor, who made no effort at all to deal with the source of the mischief. The fall of a portion of the spandril last week was a symptom of grave importance, because it fell without adequate provocation, and that made him uneasy as to the stability of the east end of the cathedral. Their previous estimate had now increased to 30,000*l.* The Dean then conducted the visitors around the works and explained the whole of the trouble, and a conference took place with the object of dealing with the water difficulty in the Close, experiments with which are being conducted at present.

CAPETOWN LAW COURTS COMPETITION.

THE following "special survey" of the designs for the new Law Courts, Capetown, appears in the local *Owl*:—

However the present exhibition at the drill hall of the designs for the new Law Courts may strike the ordinary observer, from the professional point of view there can only be one verdict, and that is that as a whole they reach a very poor level of excellence. Here and there a plan or an elevation stands out in pleasing relief from the general welter, but always solitary, and the palm has been secured not so much by any design of super excellence as by the author who, like Wellington's general, made the fewest mistakes.

From the purely technical point of view the forty-three designs were very uneven, the draughtsmanship ranging in the widest manner from wash and line of considerable merit to sketches calculated to make one marvel at the good fortune of the competitor in being adjudicated upon at all. In the perspective sketches especially, with the restraints of black and white removed, full rein has been given to fancy, and one or two of the sheets display an orgie of colour that recalls the earliest days of the impressionists.

But to return to the designs. We believe that we are voicing the sentiments of the majority of the competitors in considering the competition as a whole to have been a satisfactory one—in pleasing contrast to some others we might mention—and the Colony to have secured the best design for its seat of judicature consistent with the conditions imposed and the limitations of price laid down.

The winning design (see *The Architect*, February 23, for illustration) in one respect differs radically from the majority of those sent in—it is quite simple. The elevations, if not very ambitious, are quiet and dignified, and study of the plan is a pleasure after worrying through the intricacies of the majority of those sent in. The designer has evidently kept in mind the old adage, "Ars est celare artem," and this apparent simplicity is really the outcome of a full grasp of the limitations of the site, coupled with a thorough acquaintance with legal requirements, and must have been the result of long and careful study. He places his main entrance to the four courts in Keerom Street, an arrangement which seems to have solved the problem of keeping witnesses, &c., away from the official portion of the building, in which he differs from all the other competitors. It opens on to a spacious hall, around which are grouped the courts themselves and the rooms for the various witnesses, the vexed question of the coloured people (which proved a stumbling-block to many) being very ingeniously got over by placing them in the basement, immediately below the white witnesses, thereby keeping them apart, while at the same time in close proximity to the courts. The courts are spacious, well lighted and ventilated, and convenient of access to judges, barristers, attorneys and witnesses alike. The judges' rooms are arranged along the Queen Victoria Street frontage, with a separate entrance from the street, and overlooking the Botanical Gardens. The barristers and attorneys' rooms are placed down the sides and along the Keerom Street front, providing the fullest accommodation. The barristers have a private entrance of their own at the side nearest the City Club. The law library is very conveniently placed between the judges and the barristers. The offices of the registrar of the Supreme Court are also arranged for on this floor, with entrances from both sids of the building. On the lower ground floor are situated the insolvency and orphan chamber branches, with the insolvency court, located in the wings of the building, with separate entrances to each from Queen Victoria Street, and a clock tower of fine proportions crowns the whole edifice.

While nothing very striking has been achieved, still the design from the practical point of view leaves nothing to be desired, and the authors are to be congratulated upon their success.

The design placed second is of a radically different nature, the main entrance being from Queen Victoria Street, with a huge portico extending over the pavement. The elevations are modern, but tinged with almost an Oriental feeling. As to the plan, the courts are well placed and carefully lighted and ventilated, but its general conception is inferior in many respects to that of the winner.

The third design has been planned with considerable care, and the elevation from an architectural point of view is perhaps the best that could be chosen. It is of a refined and severe character, admirably suited to the purpose of the building.

Of the other designs much could be said, but we will confine ourselves to a few brief remarks. No. 12 shows an original plan with octagonal courts very successfully worked out, and the elevations also are very pleasing. No. 40 shows considerable originality in the matter of the elevations, but fails lamentably in the planning. There is a beautifully worked perspective, but the style as a whole is unsuitable for a law court, and would be more applicable to a municipal building. No. 25, apart from the winner, is the only one to hit upon the idea of having the main entrance in Keerom Street for the general public and the witnesses, but the plan betrays want of care, and has every sign of having been rushed through at the last moment. No. 36 also shows a striking perspective, and No. 37 is beautifully got up, but the plan is very wasteful. Nos. 42, 18, 20, 22, 24, 25 and 34 are worthy of notice for various reasons.

In conclusion, all the drawings show signs of great care, time and labour, and with a few exceptions tend to show that the architectural profession in South Africa is well in touch with the most modern developments in design.

EDINBURGH CASTLE.

BY permission of H.M. Office of Works the members of the Edinburgh Architectural Association are allowed to visit Edinburgh Castle to-morrow.

The castle was a stronghold of the king of Northumbria in the seventh century. It was surrendered to the Scots in 960, and was long known as the seat of a religious house, with the right of sanctuary, of which it was finally deprived in 1714. No trace of monastic buildings is now known to exist. Towards the close of the eleventh century Malcolm Canmore and his queen, Saint Margaret, came to occupy the castle. The chapel, or oratory, which still bears Queen Margaret's name, is the oldest building of the castle group now remaining. The period assigned to it is about 1090. With the accession of David I. in 1124, the castle became more recognised as a royal residence; but during the next fifty years no special works appear to have been executed in it, and for twelve years afterwards the castle was an English possession.

Considerable works in repairs and extensions are recorded to have been carried out during the reign of Alexander III., after whose death the castle was again possessed by the English under Edward I., who destroyed its records and dismantled it. It was refortified under Edward III., who was driven out in 1337. David II., in 1341, carried out extensive works on the castle towards making it a great stronghold. "David's Tower," and the Gate, or Constable Tower, were erected at this time, and a large garrison chapel was also built. In 1434 the great hall, in which Parliaments were frequently convened, was erected. This hall seems to have become dismantled, because in 1500 an extension, forming the present hall, was built. It bears many very interesting carved symbols associated with James IV. and his queen.

On the east side of the square are the palace buildings, part being of the sixteenth century and part of the seventeenth century. Remains of what are supposed to be the foundations of David's Tower exist to the north of the palace buildings, under part of the Half-moon battery, which was constructed after the siege of 1573, when David's Tower and the Constable Tower were both dismantled. The Constable Tower, now known as the Argyll Tower, from the chamber in it having been occupied by the Marquis of Argyll on the evening preceding his execution, is part of the restoration due to the munificence of the late William Nelson. Under the great hall are the kitchen and the chambers in which French prisoners were confined in the early part of last century.

ELECTRIC LIGHTING AND POWER IN A PUBLIC INSTITUTION.

By F. T. Warden-Stevens, A.M.I.M.E., A.M.I.E.E.

THE lighting of a large public institution, consisting of various departments and several blocks of buildings, is a question requiring very careful consideration and supervision, especially when particular circumstances have to be dealt with, as in the case of a hospital, workhouse or asylum. The provision of power for various purposes, such as driving laundry, bakery and workshop machinery, ventilating fans, pumping, &c., also is of considerable importance in view of reliable and efficient results. The writer having given attention to these questions felt that some information would be of interest, and therefore has decided to give particulars relating to a special case in which he has planned and supervised the arrangements for lighting and power; this he ventures to believe can be considered as a good example of modern practice in large public institutions.

The buildings under consideration consist of twelve blocks and cover an area of over four acres, there being connected with the institution a steam laundry, bakery, chapel and workshops.

The electric lighting system consists of three feeding cables, the largest of which is equivalent to half a square inch area of copper. These cables pass to three points equidistant from the junction of the corridors and about halfway from the centre to the furthest point; connecting these three points is a complete network of concentric lead-covered distributing mains which allow each block of the buildings to be reached in one of two ways. The various cables being connected together in above-ground connection boxes, any length of cable may be disconnected and tested or repaired without in any way interfering with the general supply. All staircase and corridor circuits are, on account of their importance, connected separately to the mains so as to render them independent of the general supply.

Each block of buildings is provided with a main distribution box, which contains a 15-ampere fuse for each circuit, and each of these circuits is connected directly to a subsidiary distribution box controlling not more than 15 amperes in 5-ampere circuits. By this means it is practically impossible for more than a small proportion of the lights to be out at one time due to a defect in the wiring, as a fault can only cause one 15-ampere circuit fuse to collapse out of several circuits which supply the particular block. Further, there are only two sizes of fuses—15 and 5 ampere—each connected to differently constructed porcelain carriers, so no mistake can be made.

There are twelve connection boxes, each consisting of two enamelled slate slabs fixed to battens and enclosed in a watertight iron case with lock; on these slate bases are supported the fuses. The main distribution boxes—fourteen in number—contain the 15-ampere size fuses, which are double pole and of the spring-clip type; they are mounted on slate bases and enclosed in lock-up watertight iron cases; these cases are of ample size to allow of all connections being at the back of the slate bases, which are filled in solid with waterproof compound to prevent the entrance of moisture where the cables are admitted. The subsidiary distribution boxes—eighty in number, containing the 5-ampere size fuses and local controlling switches—consist mostly of lock-up teak cases lined with sheet copper. They have double bevelled plate-glass doors, one of which gives access to the fuses and the other to the switches, and are provided with special latches so that both doors cannot be open at the same time.

The whole of the wiring has been carried out on the "looping" system, with lead-covered concentric and twin wires, and there are no joints except at switches or behind fittings, and no fuses except in distribution boxes. There are in all about 1,400 incandescent lamps, 500 switches and twenty enclosed arc lamps.

Where the fittings are pendants, these consist mostly of plain enamelled iron tube, which are more mechanical than the ordinary flexible cord pendant. The lamp-holder is screwed to the tube, and the upper or suspension end of the tube is provided with a hook to attach to a ring on the ceiling rose. This allows of movement of the pendant, and avoids damage which might result if the pendant were rigid. Special provision has been made with regard to the fittings as well as the wiring where exposed to damp, such as in the case of the lavatory and outside lights.

Electric power is utilised as follows:—The laundry shafting is driven by a 12 horse-power constant speed enclosed electric motor, and the bakery by a 8 horse-power open type electric motor. The principal difficulty was the fact that in the former case the power was required amongst other purposes for centrifugal driers, and in the latter for a dough-kneading machine, in both cases a very large effort being necessary to set these machines in motion. The motors used in both cases are of a special design, being "back compounded," in which the shunt coil is assisted by a series coil to provide a heavy starting effort with a not excessive current. When the whole of the resistance is cut out the series coil is short-circuited. On the next and last stop of the switch the connections of the series coil are reversed, and by opposing the shunt coil and weakening the magnetic field at heavy loads absolutely constant speed is attained.

In addition to these, motors of 20, 14 and 7 horse-power, amongst others, have been provided for driving deep-well pumps, auxiliary pumps for boiler supply, fire, &c.

The motors are supplied by an independent cable, and are controlled locally by switch gear for each, fixed on an enamelled slate panel enclosed in a lock-up iron case; this gear consists of a time fuse arranged to collapse if the current exceeds 50 per cent. of the maximum for more than one minute, a double pole main switch with adjustable contacts and a starting switch and resistance, also in some cases an ammeter.

Electricity is also utilised for heating irons in the laundry and tailors' workshop, and for hot plates in the dining hall, as well as for several small electric ovens or grillers.

Electricity is generated by three sets of plant consisting of:—(1) A vertical compound enclosed steam-engine of 55 horse-power, direct coupled to a multipolar shunt-wound dynamo; (2) and (3) two 30 horse-power steam turbines, connected through speed-reduction gearing to double armature shunt dynamos. A special point in favour of turbines is that they require less space than engines of equal power, and no foundations are necessary, the motion being rotary and not reciprocating. Also there is no trouble with oil in the exhaust steam, which is utilised for hot-water supply. Both the engine and the turbines are capable of working either condensing or non-condensing.

Steam is supplied to the engine and turbines from two Lancashire boilers, each of which is capable of supplying 5,000 lbs. of steam per hour at 120 lbs. pressure. These boilers supply also the steam required in the laundry, kitchen and elsewhere in the institution.

In addition to the steam dynamo electric plant there is a battery of storage accumulators consisting of sixty cells and capable of supplying a current of 200 amperes at a pressure of 100 volts for three hours.

The main control of the supply is from a switchboard situated in the engine-room of the works. This consists of seven panels of enamelled slate supported in an iron framework; each of these panels is subdivided into four. The central panel contains the main voltmeter, the main ammeter, feeder and paralleling voltmeter, and a multiple contact switch; on the one side of the central panel there are three dynamo panels, one for each machine, each containing a double-pole fuse, a double-pole main switch, a regulating resistance and an ammeter; on the other side of the central panel is the battery panel, consisting of fuse, charge-switch, charge and discharge ammeter, patent discharge switch and automatic reverse current circuit breaker, and two panels contain ammeters and double-pole fuses for four feeding cables—three for lighting and one for power. The terminals and cable connections are all at the back of the main switchboard, and self-contained on each panel as far as possible. There are also two ampere hour-meters, one registering the charge and the other the discharge of the battery, and two meters registering the units delivered for lighting and power respectively.

The engine-room is 28 feet by 25 feet, the floor of which is of granolithic cement, and the walls are faced to a height of 6 feet from the floor with white glazed bricks; this insures cleanliness and tasteful appearance. The natural lighting and ventilation are by dormer windows in the roof, as well as by large windows on one side of the room. The accumulator-room adjoining is 42 feet by 9 feet, and is 15 feet high. Special provision has been made to insure against the deleterious effects caused by sulphuric acid being spilt or the spray and fumes that arise from the cells. The walls are lined throughout with glazed bricks, the floor is asphalte, and all iron and woodwork is coated with acid-resisting paint. Ventilation is amply provided for by inlet and outlet air bricks and dormer windows.

As regards costs, these amount to about 2*d.* per unit for lighting and 1½*d.* per unit for power, taking into account capital charges as well as cost of maintenance.

The Northern Architectural Society announced at the last meeting the award of the assessor in connection with the R.I.B.A. intermediate examination testimonies of study. The first prize was awarded to Mr. Wilfrid Turpin, Sunderland, and the second to Mr. J. H. English, of Corbridge. During the evening the Glover bronze medal was presented to Mr. Bryan Watson. A paper was read by Mr. J. B. Mitchell-Withers, of Sheffield, on early eighteenth-century architecture.

NOTES AND COMMENTS.

Mr. A. Moray Williams, of Bedales School, near Petersfield, has given particulars of the newly discovered Roman villa at West Meon. The villa stands in Little Lippen Wood on the slope of a hill about half a mile from West Meon Church. The chief features that have been determined at present are a block of six rooms, what is thought to have been a gateway on the east side, a double hypocaust in the south-west corner, and a buttress backing the wall to the block of rooms. What appears to be most interesting is the variety of the pavement. One of the rooms, measuring 10 feet by 32 feet, was paved with red-brick tesseræ. As a sleeper wall underlies the tesseræ at 10 feet from its west end, it may have been divided by folding doors or other partition. The base of a moulded column in its original position, with a coat of red paint still adhering to it, is completely visible, and traces of a similar column opposite indicate a doorway leading to Room 2. This room, which measured 21 feet by 10 feet, was also paved with red tesseræ, but with a border of white ones, and there also are sleeper walls indicating partitions or folding doors. Room No. 3 measured 21½ feet by 11 feet, and was paved with mosaic of a somewhat elaborate geometrical pattern of red, black, white and blue. In the centre there was an octagonal panel, which may have contained a figure, but it has been wholly destroyed. To the right of Room 2 was a room measuring 11 feet by 19 feet, also covered with a mosaic pavement. This pavement is well preserved, and is very beautiful, if only from the fact of its simplicity. It is only geometrical in red, white and black. The pavement has sunk considerably, and perhaps lies over a hypocaust. The other two rooms have not been yet fully excavated. At the south-west corner the hypocaust was 21 feet in length, and consisted of two chambers, each fitted with an apsidal termination. It cannot yet be said with certainty to which type this house belonged. Near the spot was found an abundance of iron slag, which indicates the existence of a smithy. Further excavations will be undertaken in the summer, and the two mosaic pavements already found will probably be permanently preserved. Hampshire was by the Romans made a part of Britannia Prima, and there were several Roman stations in the county, Winchester being one. It is not surprising, therefore, that a villa should be found at West Meon.

The new spirit of treating light and air cases, which is a result of the Colls case, is accepted in Ireland as well as in England. An example was afforded on Saturday last. A maker of ready-made clothing found that his premises, including workshops, were darkened by a large pile of offices which had been erected for an assurance company at a cost of 64,000*l.* There was apparently no doubt about the obstruction, and in the old days an order would be granted for restraining the nuisance by diminishing the height of the building. Mr. Justice Barton, who heard the evidence, said there was no doubt about the existence of an actionable nuisance. Without expressing an opinion, he thought that by facing certain walls with white brick there might be an abatement of the nuisance. But his Lordship declared he would not make any decree in the form of a mandatory injunction to compel the defendants to pull down the building, although that was the form in which he would make it if he was satisfied that it could not be obviated, but he was not so satisfied. The decree he would make would be a limited decree. The defendants would be restrained from maintaining the building in such a condition as to continue the nuisance. The decision of Mr. Justice Barton deserves some attention, for it may be assumed that in other places where there is a probability of interference with light the use of white bricks would not be without influence on judges. In the case in question it will not be necessary to take down a costly building or to expend a disproportionate sum of money as compensation, although formerly one or the other method could not be avoided.

It is often said when accidents arise in New York that the laws relating to building are too lax, and the superintendence too careless. The Board of Aldermen have therefore decided that a new code is to be prepared for all matters relating to the construction, alteration or removal of buildings. In addition to the members of the Board, who will form a special committee, several experts are to be engaged. They will consist of a builder, an ironworker, a mason, a carpenter, a plumber, an architect, a civil engineer, a sanitary engineer, a physician and a lawyer, who, after they have rendered their services, will receive such compensation as will be determined by the Board. If the amount of knowledge which is demanded should be considered as a standard, there should be more than one architect invited. As much may be said about the necessity of having more than one contractor. The two classes of experts would be sufficient to deal with all matters relating to the construction of the buildings, and therefore the necessity for representatives of the working man is not evident. But we suppose it was policy dictated the choice. Security against fire should be likewise considered, but no fire expert is to be called in. Manifestly the choice of members is inadequate.

ILLUSTRATIONS.

VILLA CASTENHOLZ, INSEL OBERWERTH, COBLENZ.

We publish this week another of Herr Bock's residences at Coblenz. The villa is isolated, and each side presents a different appearance. As we pointed out last week, the views of the country and the Rhine are charming, and it will be observed that opportunities are provided for the occupants to enjoy them. Although planned as a modern residence, there are features in the building which suggest that it belongs to a district where feudalism was at one time supreme. The emphasis on the vertical lines partly produces that effect. In this case also novelty has been secured without any sacrifice of commodiousness.

DESIGN FOR SCREEN, MELTON MOWBRAY CHURCH.

The new chancel screen recently placed in the parish church of St. Mary at Melton Mowbray is the work of Messrs. John Thompson & Co., of Peterborough, from the design of Mr. J. Oldrid Scott, F.R.I.B.A., and cost 580*l.* It is remarkable for wealth of detail, harmony and lightness of construction, and adds much richness to the chancel of this beautiful church. The venerable building is considered one of the finest in the Midland counties, and Rickman recommended it as worthy of careful examination. It is a cruciform erection of stone, consisting of chancel, nave, aisles, transepts, western porch, and a stately embattled tower with octagonal turret, pinnacles, and a dwarf spire containing a clock and ten bells, with a carillon machine playing a tune on the bells at certain intervals of time. The edifice was probably commenced to be built about the year 1250, but as it was progressively reared the architects appear to have altered their plan, and, instead of having the chancel as at first designed, converted it into a Decorated one. The latter is of a date as late nearly as that of the porch, which appears to have been built from 1310 to 1320.

BOTANIC GARDENS STATION, GLASGOW.

DOORWAY, WESLEYAN HALL, EDINBURGH.

CATHEDRAL SERIES.—TRURO: INTERIOR OF BAPTISTERY AND FONT

PORCHES AND APPROACHES.*

(*Concluded from last week.*)

AMONG English Gothic porches, none, of course, can touch the great western portico of Peterborough Cathedral. Indeed, notwithstanding its comparative plainness and simplicity, it is at least as much greater artistically as it is physically than the porches of Chartres. The architecture of the Middle Ages cannot show its equal in Europe, and one must always regret that the genius who conceived it is robbed of a just fame by our ignorance of his identity. Unfortunately, if we looked for other English Gothic porches that anyone could think of comparing with the French ones, we should be driven to rely on the Galilees of Ely and Lincoln. We could justly claim that they owe their beauty, not to the profusion and the intricacy of ornament on which the French examples largely depend, but to the more solid architectural qualities of restraint in design and an almost Greek refinement of details, especially of the mouldings (the French masons never touch the English in their mouldings). The difference is typical of that between French and English Gothic as a whole, perhaps of that between the characters of the two nations. We should have to confess, on the contrary, that the chief beauties of these two porches are almost lost to the casual observer by being hidden in somewhat dark interiors. That is possibly due to our climate suggesting more strongly an enclosed porch. But it seems typical, too, of our national tendency to seize on a slight practical advantage as an excuse for avoiding display. We call it common sense; but when it is not parsimony it is generally merely the nervousness of a touchy pride which fears criticism. Of our other cathedral porches the most worthy seem to me to be the triple porch at Salisbury, the south transept porch at York and the south porch at Gloucester.

We can show no English examples richer in sculpture than the south porches of Canterbury and Gloucester cathedrals. And in those cases it is all modern restoration. But supposing it to have been originally equal to, or better than, the best French work, and admitting that at Gloucester it is placed and arranged with admirable taste and judgment, it can never have made these box-like structures worthy entrances to great cathedrals. At Canterbury the architectural lines and proportions are quite uninteresting, if not actually bad. And although at Gloucester the reverse is the case, and the work may justly claim our admiration as a very fine and typically English example, it does not rise much above the level of innumerable parish church porches all over the country. The grand three-storey south porch of Burford Church, Oxfordshire, the south porch of Beccles Church, Suffolk, and the well-known south porch of St. Nicholas, King's Lynn, which all belong to much the same period (called in the guide-books the Perpendicular), must have been very nearly as rich and beautiful before their images were destroyed. The north porch of Thaxted Church, Essex, though less sumptuously ornamented, is better proportioned and more satisfying to one's architectural instincts than either.

The south porch of the same church is also interesting on account of its great projection which allows of entrance arches as well as windows in the sides. The south porch of Boxford Church, near Sudbury, is another very fine example of the same period, though only one-storey high. If one were seeking to classify Late English porches, all these, except the Beccles example, might be distinguished by the cornice and parapet forming a low-pitched gable. Whether that means a rather earlier date or only another type does not, perhaps, much matter. But in the eastern counties, with which I am best acquainted, most of the numerous porches that date from the latter half of the fifteenth century are finished at the top by horizontal lines. The south porch of Southwold Church is typical, and perhaps the finest example of a class which is very common all over the coast country of Norfolk and the north of Suffolk and far inland on the borders of the two counties. These porches would be effective in any case on account of the fine proportions of the whole and of every part. But they owe their richness to the peculiar form of decoration employed, which is produced by letting very thin flakes of black flint into the surface of flat stonework. All the panelling, the tracery, the letters and monograms are formed in this way. The flint flakes are chipped away from the back to form a knife-like edge, which can then be trimmed to shape, and the hollows in which they are set are so shallow as to be scarcely perceptible where they have fallen out. But, owing to the contrast of colour, the effect, so long as they remain, is nearly equal to that of pierced work. The same decoration is applied to other parts of the buildings, particularly to plinths and parapets and the spaces between clerestory windows, but that is another matter. Very beautiful two-storey church porches of a somewhat earlier date are to be found at Northleach, Gloucestershire, Leverington, Norfolk, and St. Margaret's, Leicester, among other places. The porches without an upper storey are usually less effective. But there is a very fine one of the middle period at St. Mary's, Beverley, which is illustrated in Rickman; and some of the early thirteenth-century ones, now ruined, such as those at West Walton, Norfolk, and Higham Ferrers, Northampton, must have been exceedingly rich internally. The porch of the Temple Church in London is unique, to the best of my knowledge, and forms a class by itself. The typical Late English church porch of the larger sort must be referred back for its type and origin to such Norman examples as the north porch of Southwell Minster.

But there is also among village churches a common class of wooden porch of late date which seems to have arisen from the addition of what one may call screenwork to the timber construction of the village carpenter, with the addition of a moulding or two on the arrises of the timbers. Such porches are usually so ruined that the existence in fair condition of a wooden porch of obviously earlier date is rather surprising, and, if I had not seen the one at Boxford myself, I should have been tempted to put it down to some restorer; the more, since it is such an imitation of a stone porch with vaulting and window tracery complete as one does not readily put to the credit (or discredit) of our forefathers. It is probably unique, it must be badly decayed, and it is to be hoped that some young man, with time for such things, will make a careful measured drawing of it at once before it is either pulled down or "restored."

There is one more English church porch that must be mentioned before leaving that branch of my subject, though it is not Gothic. It is the familiar porch of St. Mary's, Oxford. In the present condition of architectural taste I am tempted to characterise it as the most beautiful of all.

The precincts of all great ecclesiastical and conventual establishments were, of course, walled in, and the approaches guarded by gates or gatehouses having more or less architectural character. A very large number of these remain, especially in our cathedral cities, but the diversity of their forms and characters rather bewilders any one who tries to describe them and entirely precludes classification. Between the grand but heavy and forbidding fourteenth-century gatehouse on the hill at Ely, which I suppose most of us know, and the light and gracious late structure at Worcester, with its panelling and its gallery of windows, there is almost every conceivable form and degree of ornamentation. Both these have level parapets, but gables are more common and seem most appropriate when turned to the front. Occasionally they face the sides, and occasionally both front and sides. A large number have but one opening, or had but one originally (a second has sometimes been made in modern times). A few only had two openings, a larger one for wheeled traffic and a smaller for foot passengers (like the holes for the cat and the kitten which legend says Sir Isaac Newton made in his door). The Worcester gate is the only one I can remember with three. As seems natural and proper, the outside is usually plainer or sterner-looking than the other, though where there is a lodging over the gate, as there more often is than not, there is generally a window on the outside for a look-out. I have chosen the Worksop Abbey gate for illustration, partly as being more or less typical, but mainly on account of its gables, which make a good architectural group, and for the incidental interest of some remains of an old cross just outside the gate. Norwich possesses two gates which are of unusual interest on account of their remarkably rich and symmetrical design. The earlier is the Ethelbert gate, built about the last quarter of the thirteenth century, a really fine piece of work, but much spoiled by an incongruous and absurdly ugly modern parapet of flint inlay. The other, the Erpingham gate, built by Sir Thomas Erpingham, who figures in Shakespeare's "Henry V.," if less vigorous in design is almost as elaborately decorative and is not spoiled by any modern addition. Of an altogether different class and much more formidable were the gates that guarded the approaches to castles and cities of Mediæval Europe. And of these, again, a much larger number remain even in this country than it is possible to refer to in a single paper. The earliest form of such gates in England is to be seen in the ruins of some of the Norman castles, which were built before any of the fortifications of towns; at any rate, before any that are now left. It consisted of a narrow gateway in a lofty tower, the front of which was made up chiefly of two enormous turrets, circular on plan, flanking and appearing to crowd and threaten the gate, as, indeed, they were meant to do. The tower was, of course, crowned with machicolations and parapets, the base was battered to facilitate the attentions which the owner desired to pay to unwelcome visitors, and the gateway was further protected by an iron portcullis, and, except in very inaccessible situations, by a moat and drawbridge. This form of gate persisted in essential particulars in most city and castle gates, and later, in mansion gateways in England up to the reign of Elizabeth, is to be found even in the seventeenth century.

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* A paper by Mr. F. T. Baggallay, read at the meeting of the Architectural Association on Friday, February 23.

As time went on the turrets became less important. They were made smaller or placed further apart and the circular form was less insisted on. In the Micklegate bar at York, built about 1300, the turrets are quite small and the lower part is square. At Carnarvon Castle they are polygonal, at Alnwick Castle they are square, at Hurstmonceux, the youngest of the English castles (1446), the turrets are fanciful, octagonal below and circular above, with smaller circular turrets standing up within the parapets.

There are few things more picturesque to be seen by the tourist in some of the unspoiled towns of the Continent than the old city gates. I do not envy the man with a brush, a pencil or even a camera who could see the Haarlem gate at Amsterdam and leave it alone, however often he may have seen sketches and photographs of it before. It may be that there is not really much in it in the way of architectural detail, but it groups splendidly; there is the most delicately-graduated light and shade and there is colour, to say nothing of a bridge and water in the foreground. What more can a man want?

The bridge and the water do make a difference. I doubt if people would think so much of the gatehouse at the bridge-end of Prague, which we often see sketches of, if there were no bridge. Many of the old French and German towns, and especially the towns of Holland and Belgium, can boast gates which in other respects are as picturesque, but we rarely see drawings of them. Germany is especially rich in city gates, and has even some early Renaissance examples, which are, however, more or less heavy, coarse and ugly. Our own charming little Temple Bar is possibly unknown to some of the younger men; it is worth a journey to Waltham to see.

In the last twenty years of the fifteenth century, when the feudal castle gave way in England to what is not inappropriately called the castellated mansion, the general form of the great gate-tower was still retained; but it was pierced with large windows, and the turrets and machicolations and battlements became attenuated and merely ornamental. A type was thus developed which persisted for more than a century. The turrets, two at first, soon became four for the sake of symmetry. They were octagonal in plan, and straight from top to bottom, except for a slight oversail at first where the machicolations used to be. And as time went on they became thinner and thinner, and the space between them wider and wider. Such gate-towers are always striking features; but the earlier examples, before the turrets had become too attenuated, and especially several in the eastern counties which are built of red brick and terra-cotta and have the added advantage of colour, seem to me the most handsome. The Oxburgh Hall gateway seems to be the earliest of these. The date is generally given as 1482, but, according to the present owner, it was not finished until 1489. The moat and bridge and its height (80 feet) give it an advantage over all rivals, unless the more ornamental character of some of the detail in the Layer Marney gateway (built in 1500) be held to equalise matters. In point of date the "Deanery tower" at Hadleigh is between the two (1495). In appearance it suffers from too much neatness and hardness of line, and must, I think, have been trimmed up, rubbed down and pointed in modern times. It is certainly not so picturesque as the ruin of the Nether Hall gate, now standing neglected in a farmyard. The familiar gatehouse at Hampton Court, also of brick, is a little later in date (1515-20).

Most of the stone gatehouses of this type, where they belonged to private mansions, seem to have been either pulled down or greatly altered subsequently. There is an example, though rather a poor one, perhaps never completed, at Montacute Abbey, and a very fine one at Knole, near Sevenoaks, where, however, the turrets are square in plan. The best and by far the richest examples remaining are some of the great gatehouses to the courts of the Cambridge colleges. The great gate at Trinity, begun in 1535, and the outer gates of Christ's and St. John's colleges, begun soon after 1505 and 1510 respectively, are the best. The last two are notable for the fine decorative use made of the arms of Lady Margaret Beaufort, Countess of Richmond, who founded them. The three gates to the great quadrangle at Trinity are all said to owe their present form to Ralph Symmons, who had been one of the architects or designers of the second court of St. John's, and was employed in 1604 by Dr. Nevile, an energetic master of Trinity, to improve his college buildings. But it is unlikely that Symmons much altered the great gate; and King Edward's gate, at the end of the chapel, is said to be an old one which he merely took down and rebuilt on another site. So that the third, or Queen's gate, alone can be properly dated so late as the beginning of the seventeenth century. There is, however, another example of the type in the brick gatehouse of Abbot's Hospital, at Guildford, built in 1619.

The Oxford colleges did not accept the type, but continued to build plain, square, or rectangular entrance towers with only one stair turret, in general outline more like contemporary church towers, but distinguished by great oriel windows over the arch instead of belfry windows at the summit. The best of these is the Founder's Tower, at Magdalen. The only Oxford example I can call to mind of a gatehouse with more than one turret is the sumptuous Tom Tower, at Christchurch, as it was originally built by Cardinal Wolsey.

The cases in which a porch was added to a domestic building of the Late Gothic period, either in addition to or instead of a gatehouse, are rare, and I do not know of any, except the oft-drawn porch at Compton-Winiates, that is worth notice.

The freedom of thought and action which the reign of Queen Elizabeth brought to the nation led, among so many other great changes, to a revolt against the prison-like gloom of the old mansion, the small windows and the enclosed courtyards. People called for light and air and an extended view. They built enormous windows, and in the end they left out the buildings on the entrance side of the courtyard, or reduced them to a screen or even a balustrade, and if any gatehouse was erected at all it was an isolated structure. But before that step was taken the porch seems to have anticipated its coming importance, and even in the earliest Elizabethan mansions was strongly emphasised. The well-known porch at Kirby, attributed to Thorpe on what seems fairly good grounds, is an example. It has been greatly admired and severely criticised. To eyes that are educated in the niceties of architectural detail and propriety it is an unfortunate bit of honest English building, tricked out in a coarse parody of Italian details, put on in the wrong way and in the wrong places. One is apt to find in it a parallel to the finely made savage monarch who, according to report, gets hold of a suit of slop-shop European clothes, puts his legs into the arms of the coat, and his arms into the legs of the trousers, wears the hat round one ankle, and puts a saucepan on his head. Perhaps architects, like men of every trade and profession, are liable to take rather a narrow view, and allow the technicalities of their trade to become too much the masters of their judgment. Yet, as architects, we cannot help feeling that the few porches of this date in which Italian detail is absent (of which that of Montacute House is an instance) are distinctly pleasanter than either the Kirby example or the porches, say, at Audley End, where the Classic orders are used with a good deal more knowledge and discretion. The many porches, too, built at the end of the sixteenth century and beginning of the seventeenth—such as those of Ragdale Old Hall, St. Catherine's, Bath, and the Corsham almshouses, in which a little Classic detail is applied as a sort of spice in the lower part round the door—are quite charming. So are many of the half-timber porches of this and the end of the Gothic periods—such as the porches of Park Hall and Moreton Old Hall, and that of the old Guildhall at Lavenham. English porches of a later date, though the detail may be unimpeachably correct, are apt to be formal, unimaginative and uninteresting. The Westwood porch is a not unfavourable example. The same criticism may, with some show of justice, be applied to the great porticoes which may be found in every town, and which are built in imitation of the porticoes of Roman temples. But the lofty and serene majesty of such a composition, when it s proportioned and detailed with care and knowledge, makes t peculiarly suited to the approach of a great public building, and one would be sorry to lose it in such situations.

When the enclosed courtyard of the late Mediæval mansion was opened out by the omission of the buildings on the side of the gate-tower, and the place of the latter was supplied by a gatehouse, either entirely isolated or forming part of a low screen or connecting corridor, the gatehouse assumed a greater variety of form. The Tixall, Burton Agnes and Charlecote gatehouses still have angle turrets; but at Charlecote the proportions have already become broader and lower, and at Old Toddington and in a variety of other instances the turrets were omitted, and the gatehouse was but one storey high, with a tendency to dissolve into a gateway flanked by small lodges. This is actually the form of the curious and rather ugly example at Westwood, Gloucestershire. But the gatehouse was replaced in some cases by an arched gateway of ornamental character, such as that at Cold Aston Manor, or the curious, elaborate, rather pleasing gateway at Caius College, Cambridge, called the Gate of Honour. Later examples of such gates are to be seen in the old Somerset House gateway now in the Embankment Gardens, London, and the gate to Queen's College, Oxford. Sometimes there was a gatehouse and screen to the main courtyard, as well as an architectural gate-arch or gate-piers to an outer court, as at Rushton. Gate-piers became in the end far more general than the arch, and are usually joined by more or less elaborate and often very beautiful wrought-iron gates and grillwork, rising at the top into a light gable of scrolls and foliage, among which the arms or monogram of the owner are generally introduced. The arms are also frequently to be seen on the outer face of the piers, the finials of which are generally the crest, a vase or a ball. The balls are said by some people to be properly the gruesome emblem of a lord of a manor, since they represent the heads formerly exhibited at their gates by those who had the power of life and death. Some of the best of the innumerable examples of both piers and ironwork are to be seen at Cambridge, at the entrances to the colleges from the backs. There are many good examples, too, even in the heart of London. The gateway to Staple Inn from Chancery Lane and several of the piers on the west side of Lincoln's Inn Fields are examples which occur to me.

I have already spoken twice of the great charm of an approach over a bridge. This, too, is to be seen to perfection in the back approaches to the Cambridge colleges, particularly at Clare and St. John's, where you advance, between handsome balustrades in the one case, towards a vista of courtyards seen through arched gateways, and in the other to the stately gate-piers and iron gate at the bridge-end. I have attributed the charm of bridges in part to the water, but the confinement of the approach between the parapets or balustrades of the bridge has perhaps as much, or more, to do with the matter. Many an old house is approached by a bridge over a moat which is now dry—Speke Hall is an example—and the absence of the water does not entirely do away with the charm; indeed, it seems to leave the greater part. In connection with bridge approaches generally, I cannot resist showing a view of a little Japanese shrine erected in the water and reached by a characteristic wooden bridge.

Bridges, however, can only be made part of an architect's scheme by such fortunate accidents of situation as are rare. We want other suggestions. And we may find them, as abundantly as anywhere, in the works of the Italian Renaissance architects. They favoured small projecting porches as little as their predecessors, and were not very successful with them. That of the Miracoli Church at Brescia is the most favourable example I know, but it owes a good deal of its charm to the fact that its lines are of the simplest, and the delicate carving with which the lower part is covered is in such low relief that it is almost lost in the bright Italian sunlight. The porch of the hospital at Venice, a Renaissance version of the old semicircular hood on two legs, is florid and tasteless. By instinct and tradition the Italians seem to have preferred something that did not break the front of the building, and, if not content with a mere doorway, generally either recessed the porch within the front or built a portico that covered it. The little portico of the Pazzi chapel at Florence, which is chiefly celebrated in guide books for its barrel-vault of Della Robbia ware, illustrates these ideas, and also the delicate beauty of cinque-cento detail. The upper storey, with its imitation of wooden panelling, may be open to technical criticism both on that ground and because it looks too heavy for the columns. But one would gladly commit graver errors to produce so good a result. The arch rising in the middle above the entablature deserves a note. It reminds one of some of the late Roman porticoes in Syria and the narthex at Civita Vecchia, and may be borrowed direct or by tradition from late Classical work. One wonders whether it was possibly the germ from which the great arched recess in the portico of St. Andrea at Mantua grew, or whether Alberti borrowed the idea of the latter from the Mahommedan mosques, or possessed some tradition of such entrances as that to the palace at Ctesiphon. There seems to me to be great possibilities and suggestiveness in these great arches rising almost to the height of a building and deeply recessed into it. Broad, deeply-recessed porches are the rule in the Venetian palaces, where they are necessary to form a landing-stage, since the water comes up to the front wall of the building. But the similar porch in the garden front of the Villa Medici at Rome was a matter of choice. Here there is again the arch rising above the entablature over the middle opening, and further suggestiveness in the arrangement of the steps and balustrades which rise from either side to a landing bowed out in front to hold a small fountain.

The broad and deep "loggia" which forms the porch to some Italian villas is a feature common to all countries where shade from the sun is necessary, and modern "piazzas" and verandahs probably owe little or nothing to Italy, where it is commonly better designed than elsewhere. The one at Arezzo is a characteristic example, especially in the great projection of the eaves, the generally light and open treatment and the freedom of the architectural detail. There is sometimes an upper storey, still lighter and more open.

The Italians have never given up the enclosed courtyard plan (unless they have done so recently), partly no doubt because peace and security were so long strangers to the country, partly because the difference between their climate and ours, if not very great, is sufficient to make an enclosure, which on most days seems cold and gloomy here for more than half the year, in Italy a cool and shady retreat from glare and heat. As a consequence the entry to an Italian palace, or even a house of any pretension, is most frequently through a vaulted corridor to the courtyard in the first place. Plenty of such entrances, of course, are still to be seen in this country. We even built a very pretentious one to Somerset House not much more than a century ago. But here they more often repel the passer-by, by their suggestion of darkness and dirt, than invite him by their shade. In Italy the reverse is the case, and there are few more pleasing features of the great Italian palaces than the dark entrance which frames a picture of a brilliantly-lit courtyard. The entrance to the Farnese Palace at Rome, of which Mr. Potter has obtained such an excellent photograph, is a good instance of this. The view of the entrance to the Doge's Palace at Venice (which is also from one of Mr. Potter's photographs) is perhaps less striking in one way, owing to the light coming in from the side. But the view of the giant's staircase beyond more than balances the loss of the dark shadow. The giant's staircase is, as you know, the main entrance to the palace, and is strictly in accordance with Italian tradition. From a very early date what we should call the ground floor was, in Italian palaces and public buildings, a basement devoted to cellars and offices; and the state entrance to the building was by a grand flight of stairs, in rare instances direct from the street, more often from the courtyard. There are fourteenth-century examples of the former arrangement at Perugia and Lodi in the entrance to the town hall in each case. There is also a stairway entrance, probably of rather later date, direct from the street to the principal floor of a small house at Viterbo, which is a favourite subject for a sketch. That and the rather similar stair entrance from the courtyard in the Bargello at Florence are guarded by gates halfway up the stairs, a feature that suggests exciting moments in the history of the building. External stair entrances in the courtyards are common in the older palaces; but, though generally picturesque, are not often architecturally important or especially well planned. But in the later Renaissance palaces the stair approaches are generally laid out with great care and ingenuity and an obvious and successful intention to make the most of them. Mr. Lewis has lent me the two following illustrations, which are reproductions from

Piranesi's great work, and show what he thought might be made of stair approaches. The works actually executed naturally fall a good deal short of such ideals, but they are worth the most careful study. I believe the only examples we have in England of external staircases to upper-floor entrances—such as those at Wanstead House and Keddlestone Hall—were built in the eighteenth century in imitation of the Italian palaces. German castles and public buildings of the Renaissance period were, however, generally entered like the Italian ones, at the first-floor level. Unfortunately, the men who designed the means of access wanted the finesse of the Italians. The planning is crude and the architectural detail is coarse and sometimes grotesque. But the unrestrained freedom of ignorance combined with an abundance of native wit and wild fancy produced results which are frequently pleasing and suggestive of possibilities to the architect in search of ideas. The Rath-houses at Halberstadt, Lemgo, Lübeck, Heilbronn, Molsheim and Görlitz, and the castles at Transnitz and Hartenfels, all have external stair approaches that are worth studying. Such external staircases, I think, must be distinguished in our minds from the flights of steps which lead up to first-floor entrances in some few modern public buildings, such as University College. Such flights are probably borrowed direct from the Roman temples. And they must be distinguished, too, from the short flights and long terraces with their balustrades which form such an important feature of the approaches to the palaces and great houses of the later Renaissance in all European countries. The tendency of the latter is to breadth, of the others to concentration. The value of such terraces is recognised by everyone when they are used on a great scale, and no doubt it is due to the long horizontal lines of regular ornament broken at regular intervals by piers, perhaps with vases on them, and at longer but still regular intervals by the steps. But I do not think it is fully recognised how great an effect may be produced by a single flight of such steps and a little bit of balustrade when treated in a broad way. I have put on the wall a photograph of a very commonplace house, Draycott Manor, which seems to me to have been redeemed from ugliness by such simple means.

But a great public building, a great church, or even a great house calls for a more spacious approach with a more imposing architectural setting than a terrace and a balustrade. A courtyard of liberal dimensions and an architectectural screen are, in fact, essential in such a case. The screen should be high enough and close enough to give the sense, as well as the reality, of enclosure without either dwarfing the main building or shutting out light and air. The most satisfactory approach, on the whole, to any building in the world is the great square before St. Peter's at Rome, with its double screens sweeping round in two great semicircles at the sides. The only reproach it is possible to level at it is that it is too vast for the eye to take in as a whole. I rather suspect that Vanbrugh must have had those semicircular screens in his mind when he contrived the front of Blenheim with its two quadrants, and the plan of the courtyard at Seaton Delaval Hall, enclosed on three sides by screens which terminate in little pavilions and leave the front open, has also some suggestion in it of the same origin. The architecture of the Seaton Delaval screen is heavy, like all Vanbrugh's work, and not well suited to such a feature. The best screen enclosing a courtyard that we have in London is the one in front of the Admiralty in Whitehall. It was even better before it was altered. The plan of using the screen to close the fourth side of the courtyard, the other three sides of which are formed by the building, is typically English, derived of course from the late Elizabethan house plan.

I should like to have commented on a number of other branches of the subject and particular instances. I have neglected altogether the vast and prolific field of Mahommedan architecture, to say nothing of the native Indian, Russian and Chinese, from which some apt and curious illustrations might be drawn; and I have dealt very superficially even with French and German work. I meant to have noticed some approaches which are beautiful, as it seems, by accident, and others that are curious or eccentric. I should like to have called attention to some successful modern work, but the paper is already far too long, and all that must, for the present at least, be left unwritten.

Mr. W. MILLARD, in proposing a vote of thanks to the author of the paper, said he felt he had been taken through the whole history of architecture. The Mahommedan side had not been touched upon, but in half an hour they had gone through the history of a thousand years. They would all agree that the whole existence of arches and approaches, starting with the earlier examples, was based upon bare utility. A courtyard was not made unless it was needed and the architecture was considered after the requirements had been displayed. That which we called the architecture was the outcome of the fancy of man's mind after he had surmounted all the difficulties of his undertaking. There was one example of a porch mentioned in the paper, described as the Paradise. It was so called, the speaker thought, because the word paradise was a Mediæval term for a special enclosure. It was pleasant to meet with arches and approaches which belonged to our country, and review not only the church porches but the domestic examples also. We were getting rather in the way of thinking all our Mediæval work was church architecture. The speaker supposed there was just as much secular building done then as nowadays, and there was no real distinction between the two.

Mr. A. NEEDHAM WILSON, who seconded the vote of thanks, said he did not agree with the last speaker in attributing the erection of early approaches to merely utilitarian purposes. He believed they arose from the fact that the authorities and owners wished to lend dignity to their buildings, and there were instances of this in England. In Norfolk there was a striking church tower standing high above the land, and the road appeared to have been purposely diverted in order to give a vista of the church tower at the end of it. In conclusion the speaker said it became, perhaps, more difficult nowadays for architects who had to build 1,000*l.* houses to devote much attention to the approaches thereto, but if they could only convince their clients of the value of an approach that did not lead direct from a gateway new dignity would be added to their domestic work.

Mr. FRANCIS HOOPER said that Mr. Baggallay had not used the word mystery in his paper or referred to the element of mystery which a screened approach secured. The great charm an archway gave to the limited view beyond enabled the visitor to come suddenly upon a building or a view framed, as it were—this could be appreciated as one left the south-west gateway at Canterbury.

Mr. GREGORY COLLINS supported the vote of thanks.

THE DIFFERENCE IN ARCHITECTURAL STYLES.*

IT is not difficult to state one of the potent reasons why architecture may be of even greater interest to all men than are its sister arts, painting and sculpture. While among civilised and historical races all nations have at some time been sculptors and painters, and while some nations have at all times cultivated these arts, all civilised nations and races have at all times been architects and builders.

In the light of this fact, architecture is an illustrated book of the history of mankind, because it has always been closely in touch with all that is nearest to his physical, intellectual, moral, social and religious life; and we may find that there are more sermons in stones than even Shakespeare dreamed of, and that walls have not only ears to hear, but mighty tongues to speak and to tell the true stories of the lives of those who built them and lived within them. "Curiously sensitive to any essential phase in the progress of humanity, behind every form in architecture is a human motive. It is not merely an incident in the history of architecture, but an incident in the history of mankind."

Under all real architectural forms lies a principle of structure. The conditions of time and place may differ, varying with climate and available materials, with the characteristics of race and nationality and the habits and customs of communities. But the underlying principles of the art that make building architecture remain the same through the centuries, the same in the Valley of the Nile, on the Acropolis of Athens, on the seven hills of Rome (either in the days of the Empire or of the Popes), the same in the Mediæval cathedral, the same in the boulevards of Paris to-day. We must disabuse our minds at once of the false but not uncommon idea that architecture is merely a superficial adornment and decoration of a structure otherwise well built. This is not the fact. Good building and architecture in the broad sense of the terms, are identical. Architecture and the difference in so-called architectural styles is a matter of construction and not of decoration; the one is the essence, the other only the incident—often only the mere accident—of the subject; and if we regard it from this point of view and separate the essentials from the non-essentials, it will readily be found that what at first may have seemed a subject involved in complications of styles and schools and epochs and technicalities is in reality simple and clear and a possible source of great intellectual and artistic interest and pleasure to the layman as well as to the artist.

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* A paper read by Mr. J. B. Noel Wyatt, architect, before the Municipal Art Society of Baltimore, and published in the *Architects and Builders' Journal* (Baltimore).

Recognising, then, the truth that the essential factor which constitutes the difference in architectural styles is "not mere shape or colour, but structural significance," we can truthfully state that, in the broadest sense of the word, there are only two great styles, popularly referred to as the Classic and the Gothic, more correctly as the Greek and Roman and the Mediæval, but technically and accurately called the styles of the lintel and the arch, and that in subdividing these into nationalities and epochs we need name only five great dominating periods, which we call styles, that have become of important and permanent significance down to our own day—the Egyptian, Greek, Roman, Mediæval and Renaissance—each representing in a long chain of evolution a point where a certain final and distinct result has been obtained, satisfactory to existing conditions for the time being—a resting-place, as it were, in the ceaseless progression, but as much the result and offspring of what has gone before as it in itself became the progenitor of that which follows after. But in all this we find nowhere a sudden, sharp dividing line; the transitions in time were the slow work of centuries, the modifications in form often gradual; nowhere the construction had been abruptly and radically changed; traditions of previous forms were not hastily forgotten, and, moreover, there is always to be noticed effects of more or less temporary or external influences upon the dominating features of the style itself, such as the variations of climate and materials in neighbouring localities, or the contact, temporary or permanent, with other races differing in habits and religion, all resulting in an apparent mingling and overlapping, but this showing not so much in the essential principles of construction as in the less essential and superficial forms of decoration.

Why the lintel and the arch are the exponents of the two great styles is this. The two simple and essential factors of any building of any material, whether it be a palace or a hut, a temple or a tomb, are the upright wall supporting the super-imposed roof—and this upright feature may be either a solid wall, pierced with openings, or part of the wall may be reduced to columns, or further, the whole wall may become an open colonnade. It is the method adopted—either the lintel or the arch—to span the spaces and openings between solids that determines the style, and the statical conditions, so to speak, of the two styles are simply these. In order to meet and counteract the powers of nature, ever ready to overthrow and destroy a building, as gravity or earthquake or other natural phenomenon, the lintel and the beam offer but one resisting force, the non-breaking strength of the material used to span horizontally an open space between perpendicular uprights and bearing all the super-imposed weight above it. Gravity is drawing the mass to earth perpendicularly downward, and the strength of the lintel is resisting this force perpendicularly upward. There are no lateral or oblique forces at work anywhere, and that is the whole story, and the general structural result is evidently squarehead openings of limited width, while the impression, the effect produced upon the mind is that of simplicity, rest, repose; simplicity in this sense implying not mere plainness of result, but directness of purpose.

So much for the lintel. When, however, the Roman, in obedience to his needs and tastes, spread the principle of the arch over his openings and adopted it as his dominating system of construction, at once all the questions of weights and forces were changed and had to be met by new methods of resistance, involving new forms. There became practically no limit to width of spans and openings that might be spanned, if one could construct a temporary framework big enough to spring the masonry arch over and could build sufficient lateral buttresses to hold it up. But the arch at once becomes an active force in itself, "a force that never sleeps." The greater the weight upon it, the greater its active power in lateral and oblique thrust—ready ever for its own destruction. With its advent into the building world all scale and dimensions, as of former structures, were changed; the sense of calm repose was lost.

It is in the varied treatment of these two broad and general principles of structure—the lintel and the arch—that all modifications of architectural styles, ancient and modern, have their origin.

Our chronological starting-point, the first important link in the historical chain, is the Valley of the Nile, "the cradle of all modern architecture." No remains exist sufficiently important of historic races prior to this to enable us to follow back the thread of evidence very intelligently; but 5,000 years ago the Egyptians were already as far advanced in many lines of civilisation as we are to-day, and their pyramids and temples and tombs were there. We know they were a deeply religious people, and in their religion this sojourn here on earth was only a temporary incident, while the infinite length and repose of eternity and the transmigration of spirit was the pervading influence of their life. Their chief buildings were the temple and the tomb, and the character of these, in structure and form, was that of the greatest possible stability, permanence and massiveness; the amount of time and material consumed in their erection was a matter of no consideration, and was far in excess of what would be needed to obtain the same practical results to-day. Delicacy, refinement, elegance of form and detail, did not appeal to them; but what was lost in these was gained in the impressive grandeur, solidity and repose of the mass. It is needless to say that the motive of the arch, in its restless, sleepless action, did not appeal to them, although they were familiar with its form, as remains here and there reveal, but it never appeared in any position of importance. All construction was that of the excessively massive lintel, resting on the wall or column, and the columns themselves were huge cylinders of stone, with only the symbolic lotus blossom used as a mere suggestive form of decorative capital. The high, blank, almost fortress-like, exterior walls of the temples guarded the mysteries of the ceremonies within.

All interest centres upon the interior, where the great fore-court alone was open to the people, and beyond was the sacred and secret shrine of the god. It is of interest to follow up what these features of temple plan developed into, without radical change, in the temple of the Greek and Roman, of the early and Mediæval christian, and in our churches to-day. The unchanging monotony of this style is about all we know of the world's architecture from 3,000 B.C. till slowly through the centuries, as civilisation passed from Egypt into Europe, it came under the influence of the subtle mind and hand of Greece, where we find the next resting-place, the next epoch, the next style. Some ruins still extant that formed connecting links are noteworthy.

That is what the Greek found and this is what he did with it. As a people, unlike the Egyptians, the Greeks were an isolated colony of artists in the still half-barbaric Europe. "Keen of intellect and reason, they did not let their imagination lead them astray from the truth." The enjoyment of life and beauty in its fullest attainment was the end sought for, for its own sake, and there were few complications of life to dull this sense of enjoyment. In their art, as in all else, they sought to obtain the best that an intelligent application of theory and reasoning and ceaseless experiment could give, the highest point of intellectual beauty and refinement and satisfaction to the senses. This they accomplished (perhaps they builded better than they knew), so that by the verdict of all subsequent ages the nearest to perfection in art was that reached by the Greek in the third and fourth centuries B.C.

Unlike the Egyptian, the Greek studied his forms, from the mass to the most minute moulding, until he obtained for them such nearness to perfection in both proportion and detail that all subsequent ages have found that any important variation detracts rather than adds to their beauty.

Unlike the Roman who came after him, he made every feature of his building, his column, his wall, his lintel actually do the work they appear to do. There was no sham, no imitation, no concealment. His buildings had the pure beauty of the nude figure, while the Roman covered his forms with the most gorgeous decorations he could afford to dress them in. Greece, even when finally conquered and "killed as a nation, lived on as an artist," and in spite of Rome, "hung on to the borders of the nations," still living and breathing through the Romans and the Dark Ages, her spirit still felt through the Mediæval centuries, awakening in the Renaissance, and still the source of our highest artistic aspirations to-day.

The Roman was another creature. A great constructor, but not an artist; a conqueror, but not a subtle philosopher;

an administrator, but not a man of sentiment or imagination; a politician, the founder of civilisation, if you will, but art to him was never an end, only a means of expressing, if even only on the surface, his power and grandeur. It was a thing administered by the Imperial Government, not, as in Greece, part of the life of the people and subject to their verdict. "Rome placed her institutions above her genius, while Greece placed her genius first;" Rome conquered Greece and brought her artists in chains, but she was perfectly satisfied with the apparent rather than the real, and the forms of the genuine art of Greece were applied by the Roman merely as a surface decoration to a form of construction behind it, with which it formed no integral part, but only served to clothe, adorn and conceal the real forms which actually constituted the building.

So much for Rome—the third great architectural epoch. With the fall of Rome came the almost architectural blank of the Dark Ages, and the "barbarian destroyer brought no art with him." But as the natural soil at times needs a fertiliser, so there are epochs when the times themselves seem to need a barbaric element, and that is what happened in the great Middle Ages. The Greek art spirit was not dead, and new life and blood of another kind was gradually being infused by the inroad of the northern hordes, the so-called "Goth," upon the soil of the new Christian religion. Civilisation was centring in France, Germany and England, in a northern climate of cold and snow and cloudy skies and granite rocks, as compared with bright suns and glowing marbles of the shores of the Mediterranean. The national characteristics were largely the result of the new religious faith and life, restless, superstitious, self-conscious, with learning and art chiefly confined to the cloister, a species of clerical aristocracy ruling over both rulers and people.

The buildings were first the great churches, abbeys, monasteries; a little later the great cathedrals, where decorative carvings (in stone), sometimes beautiful, often grotesque, were used as pictures to tell the Bible story, to expound the faith to the ignorant populace who knew no other books. Great was the skill of the men of that day as craftsmen and builders, and so great the spirit of true art still surviving that soon it burst the narrow bounds of the cloister and the church and spread among the people in the growing independent cities and States, in all their ambition and rivalry, producing the great town halls and other civic buildings, always still in the Gothic method of the arch and buttress. Rome and Greece were now far away in time and distance, almost forgotten or only remembered as the abode of anti-Christian heathens, and the influence of the ancient classic forms of order and proportion had been almost entirely lost. And then the tide began to turn. Liberty gradually became license; strength, weakness and decadence; and the great buildings of the Middle Ages grew to be often mere clever *tours de force* in ambitious rivalry of space and height and decoration. The flying buttress and the arch became bolder and bolder, weaker and weaker. Moreover, both the great feudal and religious spirits of the age were fast departing—the castle was yielding to the palace—while the mariner's compass, the New World, the Reformation and the printing press were turning men's minds into new channels. As has been said, "Knowledge killed the legend, the book killed the Church." The old things were dead, and the world was ready and waiting for the Renaissance.

I aimed to show in the previous part of this lecture that "style" in architecture was a matter of structure and not of ornament, and that in construction there are only two great principles differentiating the two broad styles of the lintel and the arch; that from the historic, geographic and chronologic point of view the changes are those of a long, slow and unbroken evolution or chain, with only five great epochs, which we term the Egyptian, the Greek, the Roman, the Mediæval and the Renaissance; and that of the chief underlying influence that created these styles, in their leading individual features and different characteristics, what religion was to the Egyptian, law was to the Roman and beauty to the Greek. With the Roman, law as the master, art the servant, and the spirit subservient to the letter, the result an art vast but machine made. With the Greek, art was the master, and such laws as we have been able to formulate from his work have necessarily been widely elastic in order to admit of that freedom of the spirit that lived and moved within it, when the hand becomes merely the cunning tool of the thinking brain, sensitive to every impression of perfect beauty.

And again, while the Mediæval buildings, in the period we call the Gothic, were largely influenced by the spirit of the religion of their age, as were the Egyptian, and show also the aim at truth and genuineness of construction, as did the Greek, they lacked entirely the characteristic of massive stability and permanence of the one, or the intellectual sense of repose and perfect beauty of the other, and were so devoid of that element of fixed law and order and proportion which distinguished the Roman that this freedom finally became license and ended in ruin, leaving the world both in mind and matter ready and eager for the Renaissance.

(*To be concluded.*)

GLOUCESTER CATHEDRAL.

THE following is a copy of a letter forwarded by Lord Ducie, the Lord Lieutenant of Gloucestershire, relating to the condition of Gloucester Cathedral:—

Gloucester: February 24, 1906.

Sir,—I have received from the Dean of Gloucester a disquieting report made to the Dean and Chapter by the resident architect of Gloucester Cathedral (Mr. Waller) concerning the fabric of the great building. The tower, one of the noblest in the world, the report says, is urgently in need of most careful reparative work. Not only are the more ornamental features rapidly disappearing, but the fabric of the tower is being seriously damaged owing to the perishing of the protecting mouldings of the stonework in many places. Wet has penetrated through the large joints, and is gradually loosening the stonework and even showing on the inside of the building. A recent fall of some of the stonework in connection with the groining of the choir roof in the immediate neighbourhood of the tower has been of a very alarming nature. In addition, the lead roofs of the nave and south aisle are in urgent need of reparation and renewal. They are all much worn, and the damp is penetrating and seriously injuring the constructive timbers of the roofs. These roofs must be largely replaced. Three of the pinnacles, two on the west front and the other on the south transept, were in danger of falling. One has been repaired and the other two must be taken in hand without delay. Other less important works are also urgently needed. If these various works are seriously taken in hand at once the architect of the cathedral is of opinion that the grave and threatening damage of the great fabric will be averted in time.

A general estimate of the cost of these essential works has been prepared and is enclosed herewith. With the view of raising the necessary funds to carry out these urgent works on our great cathedral, I have thought it well to call a public meeting in the chapter-house at Gloucester on Saturday, March 10, at 12.30 P.M. I trust it will be convenient for you to assist me by your presence at this meeting.—I have the honour to be, your obedient servant,

Ducie, H.M.'s Lieut. co. Gloucester.

The estimate of cost as prepared by Mr. Waller, the resident architect of Gloucester Cathedral, is as follows:—

Reparative work is most urgently needed on the following parts of the building and in the order given, the estimated cost being shown against each item:—

West pinnacles of the nave	£650	0	0
South-west turret of the south transept and clerestory windows of the nave, north side	250	0	0
Great central tower, including roof and first bay of the choir adjoining the tower	2,500	0	0
Roofs of the nave and south aisle	2,300	0	0
Roofs of the north transept, north aisle and south cloister	1,200	0	0
Exterior stonework of the south and north aisles and of the west end of the nave	1,250	0	0
	£8,150	0	0

As so many services and recitals are now held in the nave the lighting question has become very important. The present system by means of gas jets is causing injury to the stonework apart from the discolouring.

As the work will necessarily be spread over a period of at least three years, donations can, if so desired, be spread over that period. Among the amounts received are:—Earl of Ducie, 500*l.*; the Ecclesiastical Commissioners, 500*l.*; Earl Bathurst, 300*l.*; Mr. T. Dyer Edwards, 105*l.*; and 100*l.* each from the Dean of Gloucester, Lord Fitzhardinge, Sir John E. Dorrington, Bart., Mr. H. Dent-Brocklehurst, Mr. R. I. Tidswell, Mr. A. Strickland, Mr. R. V. Vassar-Smith, Mr. James Horlick, and the executors of the late Mr. Peter Stubs.

ARCHITECT WITH TWO MASTERS.

An action of a very unusual kind was heard last week in Liverpool by Mr. Justice Grantham without a jury. The plaintiff, Mr. Thomas M. Shallcross, architect, had obtained judgment for 240*l.* against Mr. Moritz Bergl, and the latter counter-claimed 800*l.* damages for breach of duty in connection with the renovation of a restaurant of which he was proprietor.

The circumstances will be inferred from the judgment given in London by Mr. Justice Grantham on Tuesday, and which is reprinted from the *Liverpool Courier*. His Lordship said in that case Mr. Thomas M. Shallcross, an architect, of Liverpool, sued Mr. Moritz Bergl, the owner of the Carlton Public Hall and Restaurant, in Eberle Street, Liverpool, for fees as an architect in the carrying out of alterations to defendant's property. Defendant admitted his liability, but counter-claimed for neglect of duty and breach of duty as defendant's architect. The case was important in regard to the amount, but far more so from the principles involved, as plaintiff claimed to act in the interest of the builder unknown to the building owner at the same time that he was acting as architect for the building owner. In his judgment it was impossible to act honestly where the interests were antagonistic, and were it not that the plaintiff claimed the right to do as he had done, and said with great earnestness that such conduct was legitimate and was adopted by other architects he should have said that plaintiff had been guilty of great dishonesty. He had no reason to doubt his word, when he stated that he believed all through that he was justified in so acting—though he (his Lordship) could not believe that many other architects also acted in a similar capacity. He was bound to come to the conclusion that gross impropriety was committed by those architects who acted as the plaintiff had acted, and that his conceptions of what were professionally honest transactions were terribly marred and distorted by an inability on his part to understand the difference between right and wrong. It was only necessary to state the facts of the case to show the hopeless position in which the plaintiff had placed himself. Defendant was the owner of a large restaurant and public hall, and wished to improve it and so structurally alter it as to bring it up to modern requirements. He knew nothing of building himself, and he employed the plaintiff as his architect. The work might be considered as divided into two heads; first, the preparation of plans to lay before the magistrates and the consequent attendance on the magistrates for the purpose of getting their consent to the alterations; second, the preparation of plans for and the superintendence of the carrying out of the work. This work, though in one sense distinct, was in reality almost identical and overlapped, because he found that the plans prepared for the magistrates were practically the plans ultimately used for the carrying out of the work, and were mostly the plans charged for by the plaintiff in his charges for carrying out the alterations by the builder, and the whole of the negotiations for the contract and subsequently signed were being carried on while the proceedings before the magistrates were taking place. Defendant admitted that the plaintiff was his architect during the whole of that period, and that he was liable to pay him for his services as such. Now what was plaintiff's contention? It was that in the earlier part of the period he was entitled to act in the interest of Norman & Stacey, who were trying to get the contract; that he was entitled to get a contractor to do the work at a certain sum, and then to add 20 per cent. as a commission or bonus to the nominal amount of the builders, who also were a London firm of furniture dealers, who never intended to do a stroke of work themselves, and to represent to the defendant that sum as the fair and lowest price at which the work could be done. Plaintiff, in other words, contended that, knowing the work was to be done for 1,625*l.*, he was entitled to represent that sum at 1,950*l.* to the building owner. To do ample justice to the plaintiff, he would shortly state the justification that he put forward. He said he was brought into the matter by the nominal builders, and as employed by them to suggest a scheme for the alteration of defendant's premises, and in that way was introduced to him. Quite true. These nominal contractors were introduced to defendant by a person (Mr. Capper) who had, or said he had, an idea of taking the place when altered. But they now knew that he soon became bankrupt, that he expected to get a commission of 5 or 10 per cent. out of the nominal builders for the introduction, and they heard no more of Mr. Capper after the first interview. At the first interview with the defendant, a very short one, in London nothing was done, but at a second meeting, when plaintiff was present, the defendant agreed to employ plaintiff as his architect to prepare plans and manage the matter for him before the magistrates, and to get their consent to the proposed alteration, the defendant stating that if the magistrates passed the plans and the work could be done within his limit of price he should certainly carry it out. Plaintiff at once set himself to work to prepare the plans and attend the magistrates and the municipal authorities, &c., but the plaintiff said that he continued to act in the interest of Norman & Stacey, the nominal builders, and was justified in getting the most favourable terms he could for them and the highest price he could out of the defendant for the work, though at the same time employed to superintend the work for the defendant. In other words, for nine months, according to his suggestion, he was justified in acting for two masters whose interests were opposed to each other, and for the last six months when acting only for defendant he was justified in withholding from the defendant all the knowledge that he possessed as to the best way of carrying out the work in the interest of the defendant, because by so doing he would be betraying the interest of the other employer, who had previously, as it were, been a joint employer of him with the defendant. An impossible position. Never was the truth of the great adage better exemplified, "You cannot serve two masters, for if you do you will hate the one and love the other, or love the one and despise the other," than it had been in that case. There could be no doubt that from start to finish the plaintiff looked to the interest of Norman & Stacey, and never once that he could see, when there was any conflicting interest, looked to the interest of the defendant, though the special work alleged to be done by the plaintiff for Norman & Stacey was only of the alleged value of 31*l.*, as against 300*l.* charged to defendant. His Lordship found, as a fact, that plaintiff was accepted as defendant's architect, and that he neglected defendant's interests and committed a gross breach of duty in acting at the same time for the nominal builders. He would find, if necessary, that he was guilty of negligence in the way the contract was prepared and the orders for extra work given; but he found in reality that it was not by ordinary negligence that the work was so done, but because it was to the interest of the builders to so do it. Not only was the defendant prejudiced by having to pay 1,950*l.* as the contract sum for the work instead of 1,625*l.*, but also extras to the amount of about 2,500*l.* It would be said that even if the defendant had known Norman & Stacey were getting the work done by a sub-contractor for 1,625*l.* instead of 1,950*l.*, *non constat* that the defendant could not have done it for that sum. His Lordship believed he could have done so, because plaintiff's own account of it was that his instructions to the sub-contractor, Marshall, were to put his tender at such a price as would enable Norman & Stacey to obtain the contract against London contractors when they had added 20 per cent. to his price. But why limit it to London contractors? The property was in Liverpool, the architect was there, and the defendant had his agents there who superintended the property. Marshall was not estimating as against any local contractor, but was taking advantage of the known higher prices of London firms. He thought the defendant might have successfully claimed the return of almost the whole 20 per cent., but as defendant's advisers had generously said they would accept a basis of 10 per cent., he found that the defendant was damaged by plaintiff's conduct to the extent of 400*l.* As to the amount of 2,500*l.* for extra charges, though many of these were unjust and foolish requirements on the part of the Liverpool municipal surveyor, there was no doubt a great deal of work to be done that was not anticipated, and in that case he thought it would not be right to make the plaintiff refund money paid to the builders, and he did not give any damages on that head to the defendant. His judgment was, therefore, for the defendant on the counter-claim for 400*l.* with costs, including the costs of the interrogatories and amendments, and any other costs left in his discretion.

A stay of execution, applied for by Mr. Tobin, K.C., was refused.

The Drawings in connection with the Hackney Public Library competition will be exhibited from the 12th to the 17th inst. at the Hackney Baths, N.E.

THE SOCIETY OF SCOTTISH ARTISTS.

THE twelfth report of the Council of the Society of Scottish Artists states that the Society consists at present of 138 professional, 49 lay, 47 honorary lay and 13 life members. The Council regret to have to record that the Society has recently lost by death from the roll of its professional members Miss Christina P. Ross, R.S.W. The Honourable the Board of Manufactures having granted to the Society the use of the R.S.A. National Galleries for the months of July, August, September and October 1905, the Council were enabled to hold an exhibition there during that period, which was well patronised. The exhibition, which was opened in July and closed in October, was artistically of the same high standard as in former years, with a gratifying increase in the attendance. The sales of pictures amounted to 402*l.* 9*s.* The financial position was satisfactory, there being the sum of 1,019*l.* 9*s.* 2*d.* at the credit of the Society, showing a surplus on the year's work of 223*l.* 5*s.* The Council desire to express the thanks of the Society to the Honourable the Board of Manufactures for granting the use of the galleries for the past season, and also to those gentlemen who kindly lent their valuable pictures to the exhibition. The Honourable the Board of Manufactures having again granted the use of the Royal Scottish Academy National Galleries to the Society for this year, the Council trust that the members will do their utmost to make the 1906 exhibition a very successful one. The following members of Council retire:—Messrs. Marshall Brown and J. Hamilton Mackenzie, professional; and James Steuart, W.S., lay, and the vacancies thus created must now be filled up.

Correspondence

Assumption of the Letters "F.S.A."

SIR,—May I point out in reply to Mr. Watling, whose letter I have only just seen, that by long usage and universal custom and courtesy, the letters "F.S.A." are restricted in England to Fellows of the Society of Antiquaries of London, from whom Fellows of the Society of Antiquaries of Scotland are distinguished by appending to their names "F.S.A.Scot."

March 2, 1906. W. H. ST. JOHN HOPE.

GENERAL.

A Special General Meeting of the Royal Institute of British Architects was held on Monday last, when it was resolved, *nem. con.*, that subject to His Majesty's gracious sanction the Royal Gold Medal for the promotion of architecture be awarded this year to Sir Lawrence Alma-Tadema, R.A., Hon. Fellow.

The Governors of the National Gallery, Dublin, have received the first consignment of the art collection assigned to them by the Countess of Milltown some five years ago. The delay in delivery has been due to an objection taken by her ladyship to the nature of the accommodation provided, on the ground that it was inadequate. The trustees applied to the Master of the Rolls in Dublin for specific performance of the deed of gift, and obtained an order entitling them to possession of the collection on March 1. The collection consists of 223 pictures, 48 pieces of sculpture, 32 engravings, 50 miscellaneous art objects, 528 pieces of silver, and an extensive library, and is estimated to be worth 50,000*l.*

The Artists' General Benevolent Institution reported at their annual meeting that the gross receipts during 1905 were 8,306*l.*, of which 2,550*l.* was invested, being legacies, leaving 5,756*l.* for the general purposes of the Institution. The sum of 3,590*l.* was subscribed at the last dinner. The annual dinner would be held on May 12 next. The amount of 3,900*l.* was distributed during the year among 188 applicants in sums varying from 10*l.* to 100*l.* Sir E. Poynter, P.R.A., was re-elected president for the ensuing year. Sir Aston Webb, R.A., was appointed hon. treasurer, and Mr. A. S. Cope, A.R.A., hon. secretary. Mr. W. W. Ouless, R.A., was elected a vice-president.

The Committee of the city of Nottingham Museum and Art Gallery have just published a complete illustrated catalogue of the valuable permanent collection of paintings, drawings and sculpture which has been formed during the past twenty-seven years.

Lectures on the "History and Architecture of the Church of St. Bartholomew-the-Great, West Smithfield," will be given on the afternoons of the 17th and 31st inst., and the cloister as well as other portions of the building will be open for inspection.

Mr. A. G. Cross, F.S.I., has been elected honorary secretary of the Quantity Surveyors' Association in place of Mr. F. B. Hollis, who has resigned the position. The address of the Association still remains 17 Bedford Row, W.C.

Mr. F. J. Horniman, who presented to the London County Council in 1901 the Horniman Museum, Forest Hill, died on Monday. He spent 40,000*l.* on this museum for the accommodation of his collections and library.

Professor Hubert von Herkomer, C.V.O., R.A., has undertaken to deliver four lectures in connection with the Hermione lectureship at the Alexandra College, Dublin, in November next.

The Roman Antiquities Committee of Yorkshire, formed to promote the study of Roman antiquities in the county, and in some degree to co-ordinate scientific archæological research with the work of the local Universities of Leeds and Sheffield, held their first annual meeting at York on Saturday. The following work for the ensuing summer was decided upon:—The investigation of the Roman road from Ilkley to Adel and Tadcaster, the excavation of the Roman villa at Harpham, the investigation of the Roman road between Stamford Bridge and Filey, the excavation of Roman foundations at Middleham, the investigation of Roman remains at Well, near Tanfield. A joint excursion with the Manchester Antiquarian Society was proposed for the investigation of the Roman road over Blackstone Edge.

An Exhibition of pictures and studies of some architectural monuments of London, ancient and modern, including St. Paul's and Westminster Abbey, by Mr. John Fulleylove, R.I., will be open next week at the gallery of the Fine Art Society at 148 New Bond Street.

An Exhibition of a selection from the work of the late C. W. Furse, A.R.A., will be opened on Tuesday next at the Burlington Fine Arts Club, and will close on April 8.

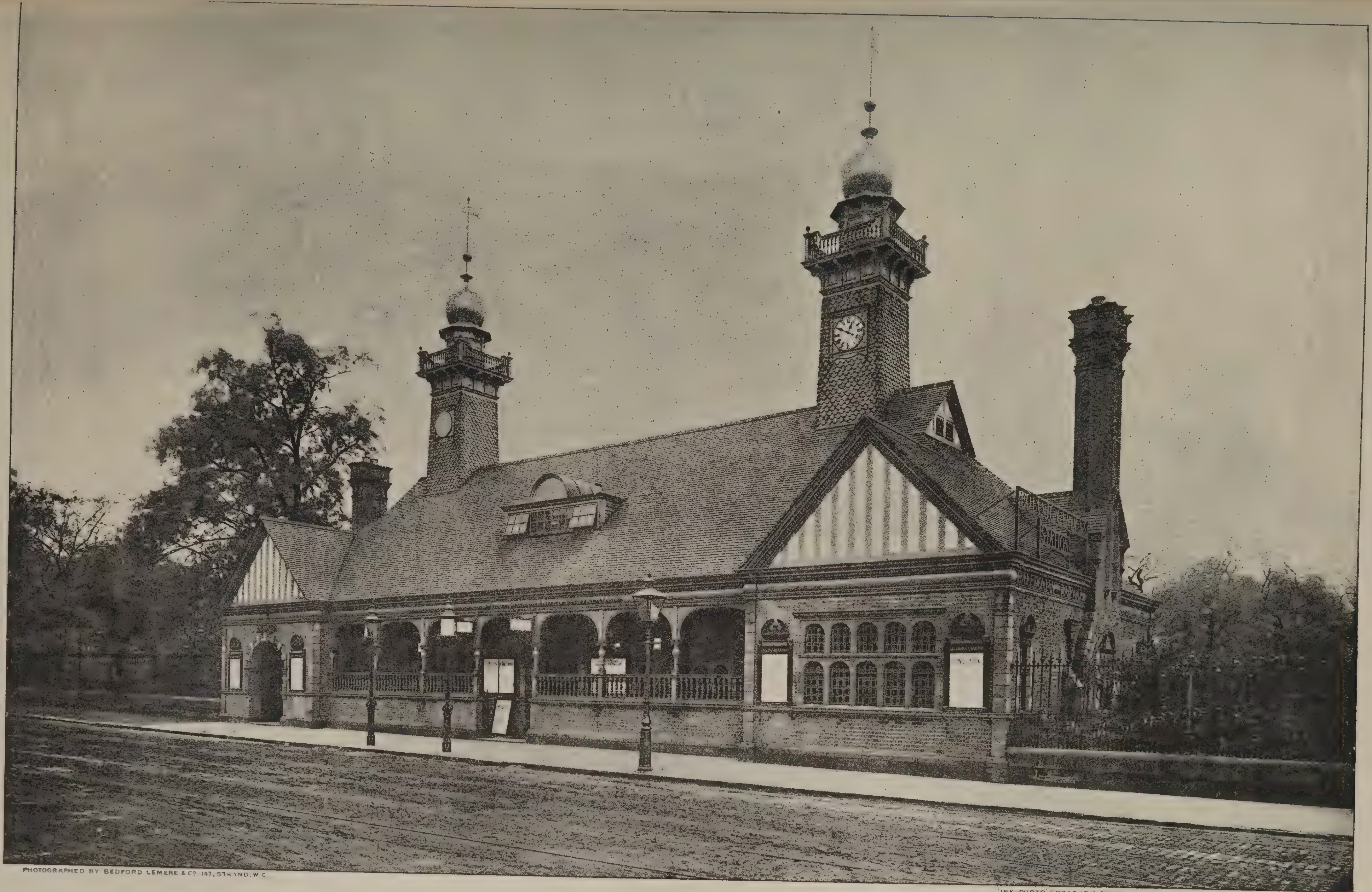
A Paper will be read by Mr. W. Henry White, architect, this evening on "Town Houses, Old and New," at Hamilton House, Victoria Embankment, before the Auctioneers' Institute. Between March 12 and 17 the Institute will remove to 34 Russell Square.

A Guide Book is in course of preparation in connection with the forthcoming visit of the British Association to York. The following articles will be included:—"Prehistoric Archæology," Dr. G. A. Auden; "Mediæval and Modern York," Mr. W. W. Hargrove; "The Minster and the Churches," Mr. George Benson; "Monastic Buildings," Rev. J. Solloway; "The Minster Library," Rev. Canon Watson; "Historical Manuscripts Preserved in York," Mr. John Brown; "City Insignia and Plate," the Dean of York.

The Streets and Buildings Committee of the Scarborough Corporation have agreed to pay Mr. E. T. Beard the sum of 700*l.* in full discharge of his claims for professional services in connection with the new Scarborough Marine Drive and Promenade, for which he was the resident engineer.

Under the Will of the late Mr. James Scarlett, Manchester University has received a bequest of 1,500*l.* for the foundation of a scholarship in engineering, to be called the James Scarlett Engineering Scholarship. The scholarship is to be open to candidates who reside in or near Manchester and are members of the industrial classes.

The Winsley Sanatorium has aroused the admiration of Sir William F. Broadbent. In the course of a letter written to the chairman subsequent to a visit he says:—"You have solved the problem of efficiency with economy in construction and maintenance, and you had previously set the entire country an example as to the concurrent erection and endowment of such an institution. The situation is excellent from every point of view and very beautiful. The architecture of the buildings strikes one as pleasing, and the combination of the two blocks, with the shelters one above the other, is very pretty and picturesque. The patients' rooms are all that could be desired in the way of cheerfulness, comfort and free access of air, and I do not know that there is a single improvement I could suggest—I learnt, indeed, a great deal which will be useful to me. What most astonished me was the small space occupied by the kitchen and its annexes and by the laundry, but the arrangements are evidently good, and experience has shown that the provision for all demands is adequate."



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BOTANIC GARDENS STATION, GLASGOW.

JAMES MILLER, F.R.I.B.A., Architect.

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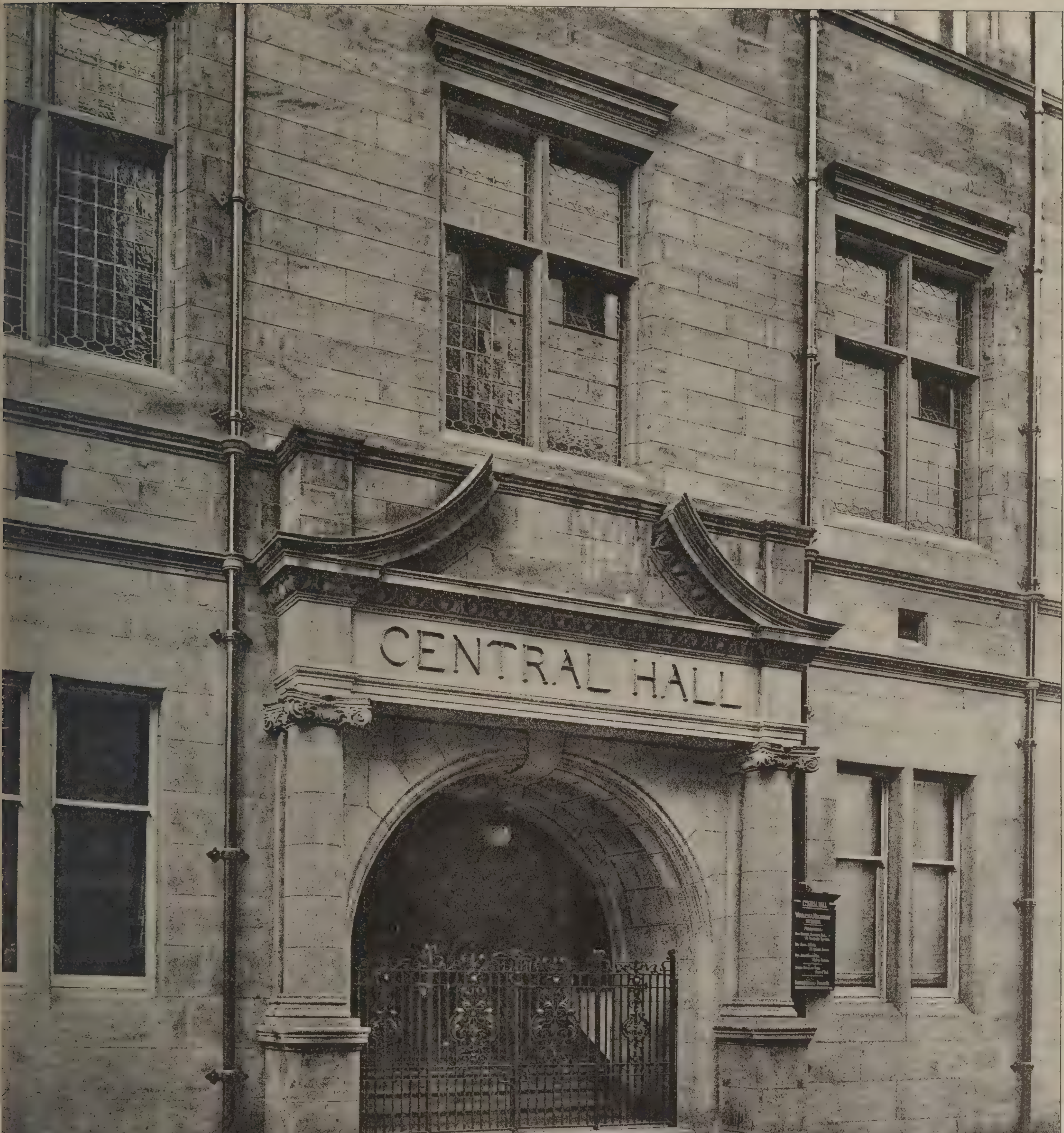

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DOORWAY, WESLEYAN HALL, EDINBURGH.

Messrs. DUNN & FINDLAY, Architects.

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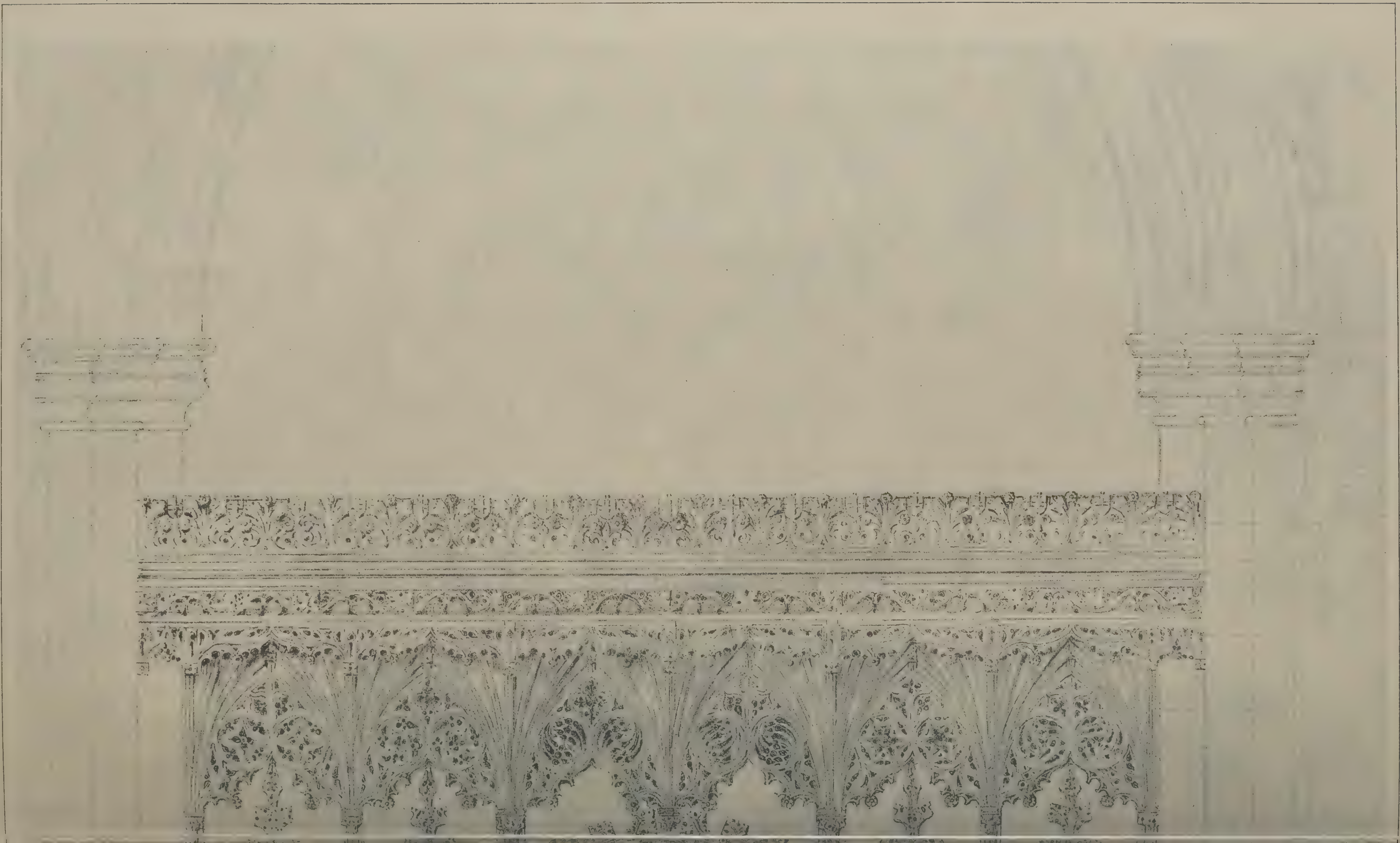

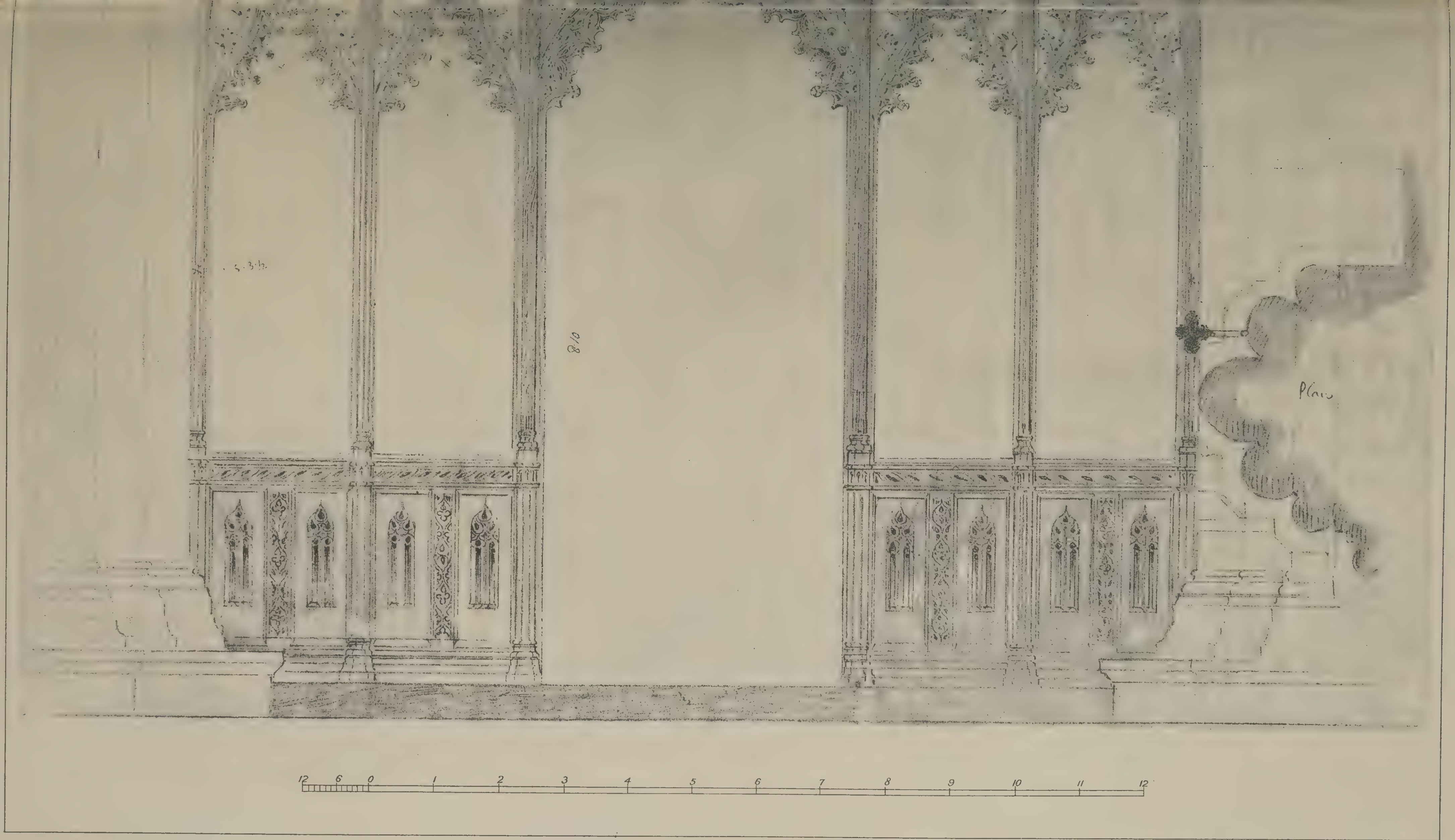

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DESIGN FOR SCREEN, MELTON MOWBRAY CHURCH.

By Messrs. J. OLDRID SCOTT & SON.

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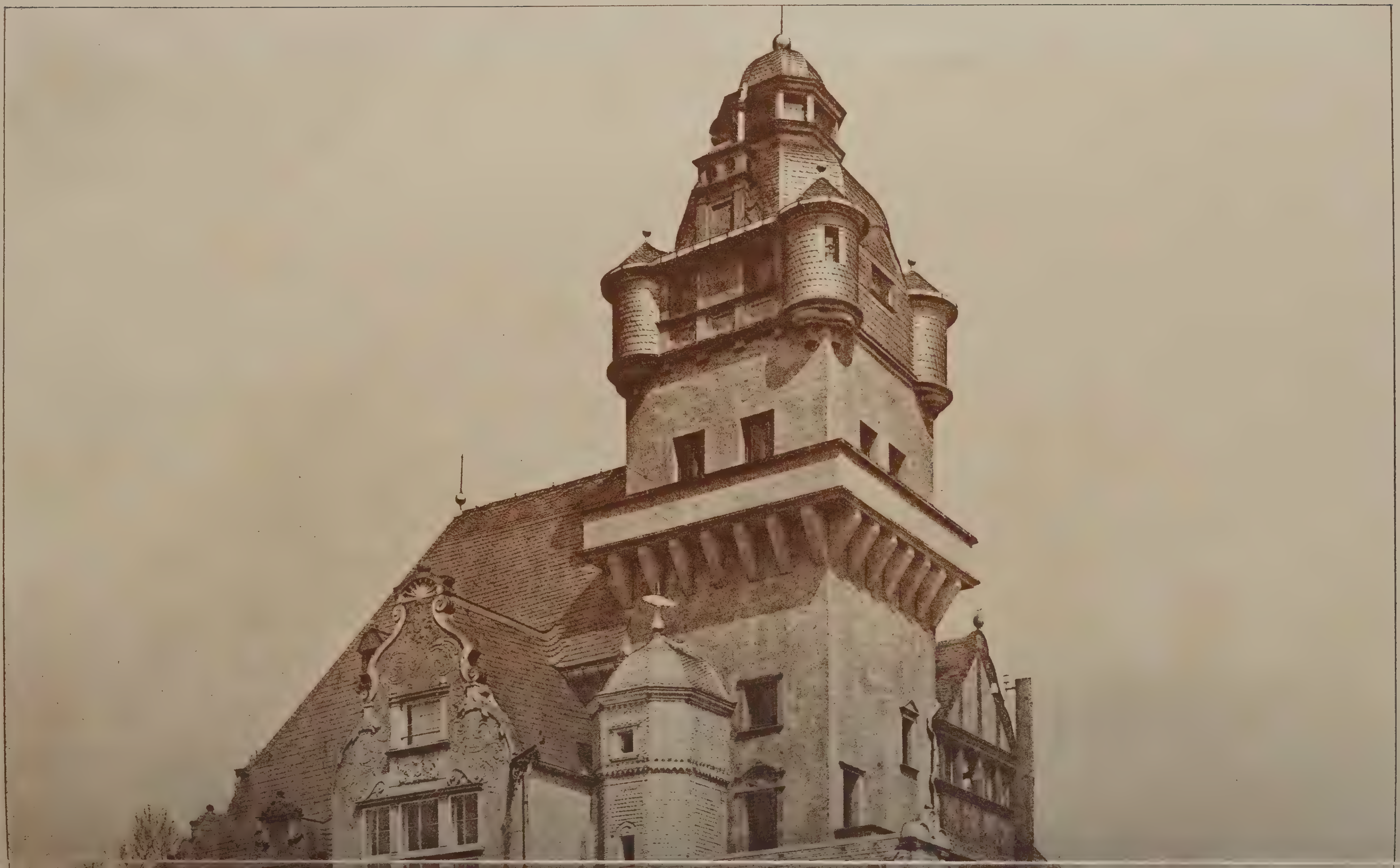

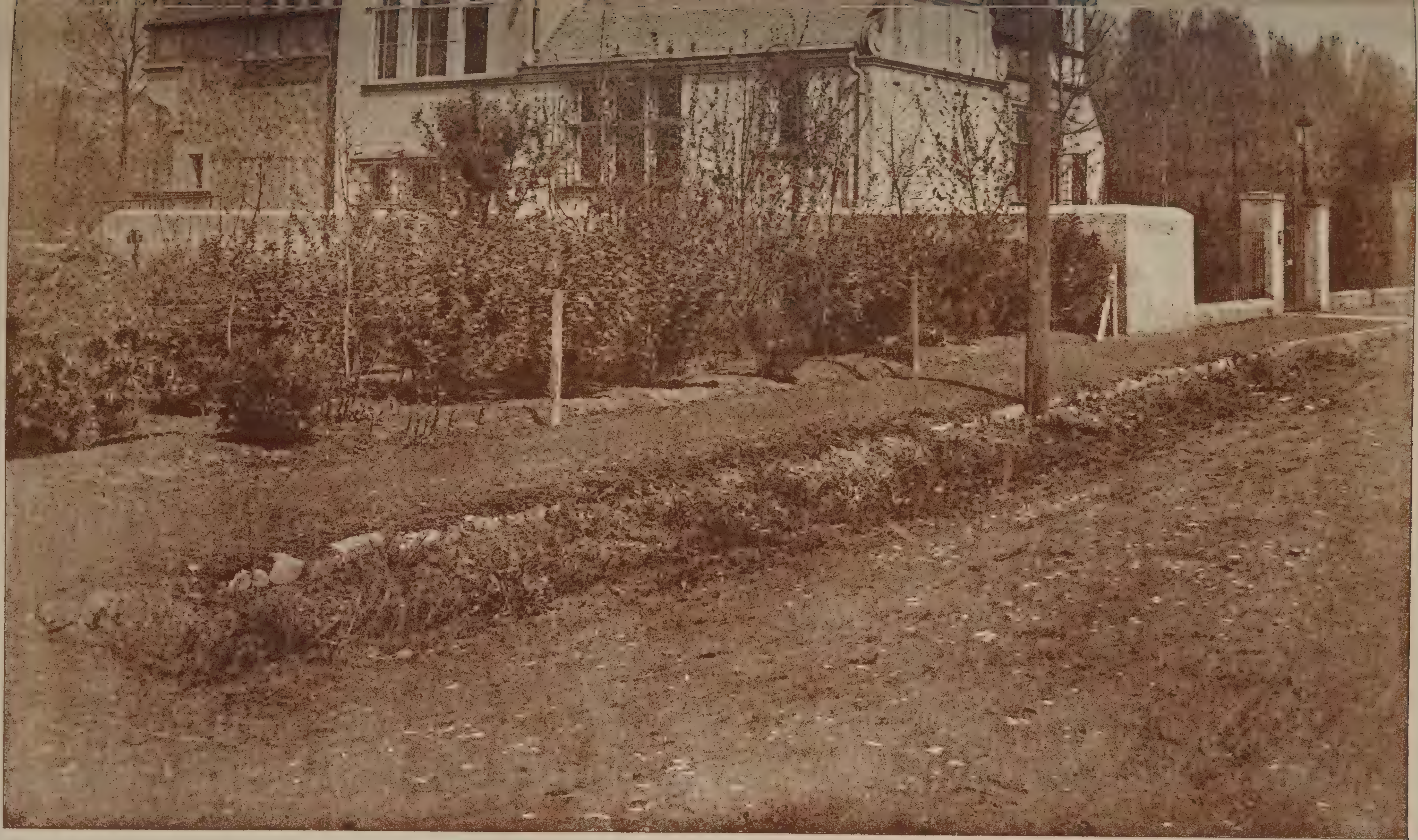

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VILLA CASTENHOLZ, INSEL OBERWERTH, COBLENZ.

WILLY BOCK, Architect.

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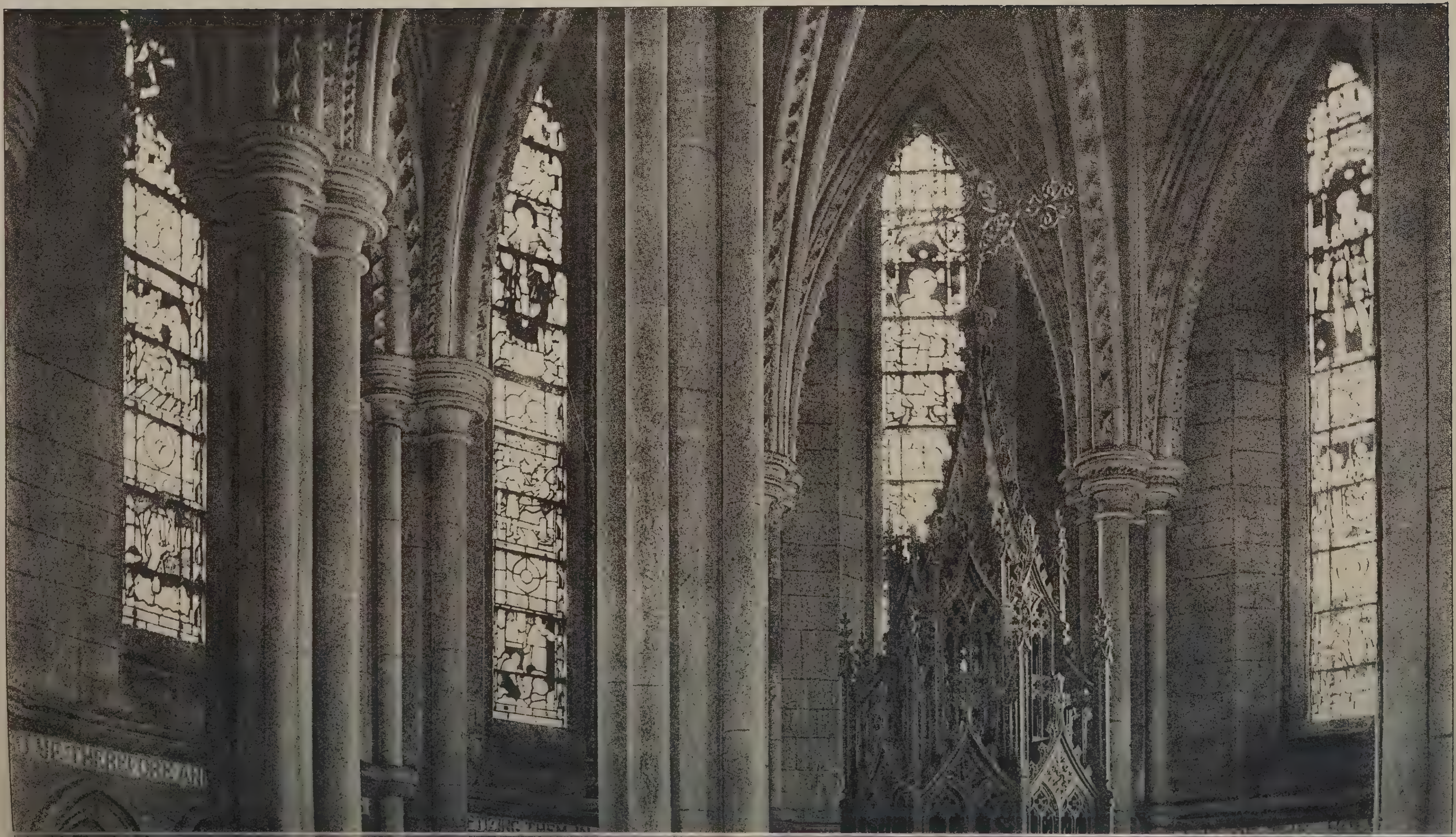
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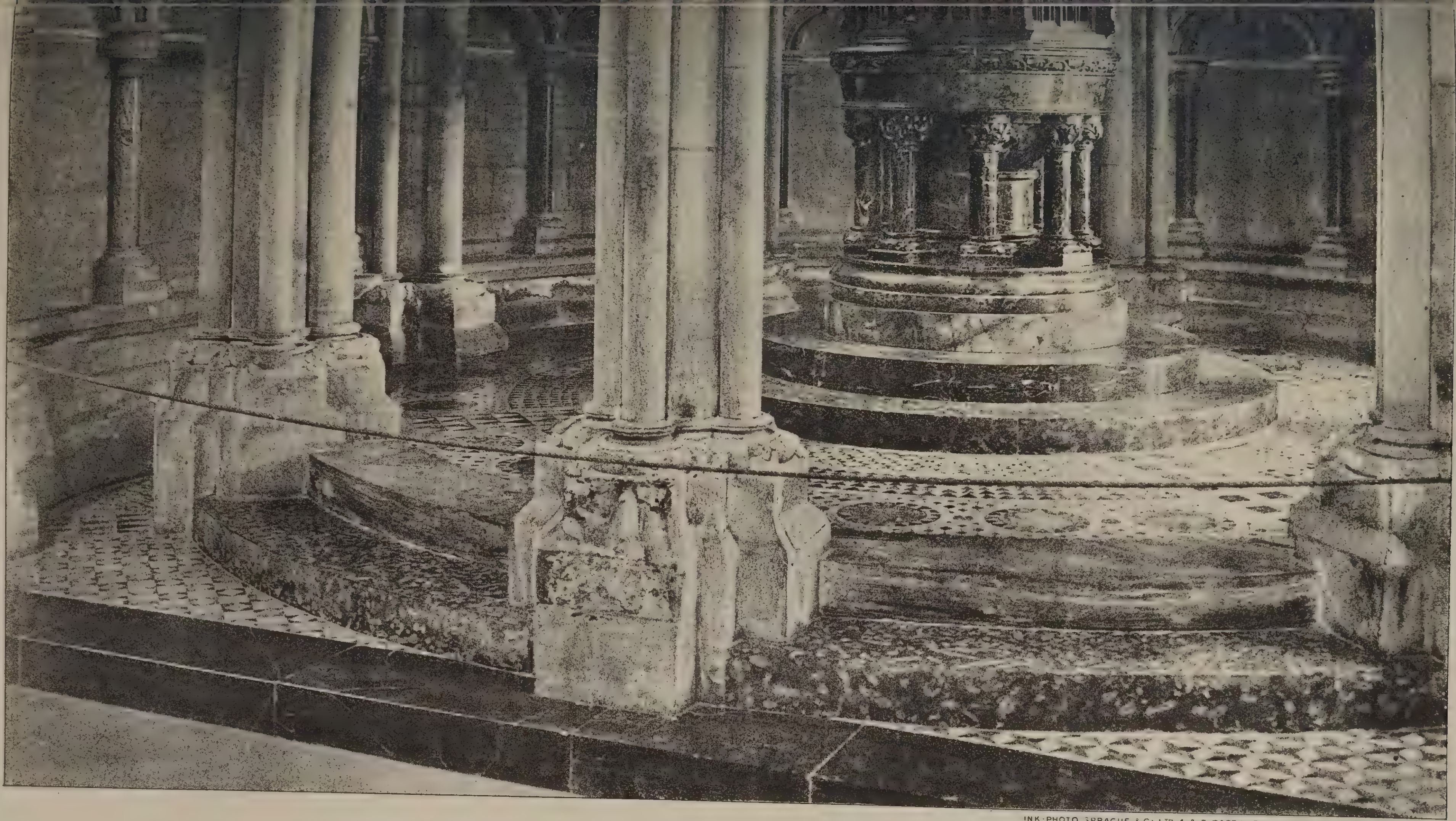

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CATHEDRAL SERIES, No. 554.—TRURO: INTERIOR OF BAPTISTERY AND FONT.

The late J. L. PEARSON, R.A., Architect.

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The Architect.

THE WEEK.

THE painting known as the Rokeby *Venus* is now in the National Gallery, and for some weeks it is likely to receive more attention than any other work in the collection. It suggests the indifference with which VELASQUEZ and his works were regarded when we find Sir WALTER SCOTT, although a frequent visitor to Mr. MORRITT, makes no mention of the artist or his picture. In those days it may have been considered as indecorous, and was therefore kept in seclusion. The history of the painting is obscure. Professor BALDWIN BROWN, when lecturing last week at Edinburgh, referred to a recent paper by Señor DE BERUETE, which alludes to an inventory drawn up in 1682, in which the *Venus with the Mirror* is mentioned as one of the possessions of two Spanish nobles, father and son, who both filled the office of Viceroy of Naples, Don LUIS MÉNDEZ DE HARO and Don GASPAR. The granddaughter and daughter of these nobles married in 1688 the Duke of ALBA, and brought with her the rich collections of art which they had formed. The picture accordingly figures in a notice prepared of the ALBA treasures in 1776. The question remains, How did it come into the possession of the family whose daughter brought it by marriage into the ALBA Palace? Now, the DE HARO family were the heirs of the famous Duke D'OLIVAREZ, Minister of PHILIP IV., so well known from his equestrian portrait by VELASQUEZ, and this Don LUIS MÉNDEZ DE HARO, a great lover of art, was in high favour in his time with the king. Hence Señor DE BERUETE suggests that the picture may have been originally presented to LUIS DE HARO either by the painter himself, who had been a *protégé* of OLIVAREZ, or else by the king. By this theory the picture never formed a part of the royal collection, although in the Prado Gallery at Madrid there appears to have been a *Psyche and Cupid*, which some suppose to be the Rokeby picture.

THE London County Buildings Bill was read a second time on Tuesday. The Bill, which is promoted by the County Council, seeks powers to borrow 655,000*l.*, out of which 600,000*l.* is to be paid for the purchase of five acres of land near Westminster Bridge, on the Surrey side, as a site for the county hall and buildings, the remainder of the money being spent on the construction of an embankment. Practically there has been no opposition to the Bill. The debt of the Metropolis is 33,000,000*l.*, or nearly double the amount it was in 1889. But the increased outlay necessarily means an increase of the staff, which now numbers about 2,000. When the late Mr. MARRABLE designed the offices in Spring Gardens it was not contemplated that such a number would have to be provided for. At present nearly 38,765*l.* is paid for rent for outlying offices. At another time 1,056,000*l.* will have to be raised to construct the buildings, which will have a length of about 800 feet. The site at present does not appear advantageous, and there are associations with Middlesex which will have to be broken; but no more suitable site was obtainable without a lavish expenditure. The lack of opposition hitherto suggests that there are not many ways of overcoming the difficulty. As parts of the ceiling of the present county hall have fallen in, it is evident that a change is desirable.

THE general purposes committee of the London County Council have recommended amendments in the conditions as to letting property on lease which might be adopted with advantage by many other owners of property in the Metropolis. Clauses are to be inserted in the case of isolated and outlying plots of land, granting an option to be exercised within five years, to purchase the reversion at a price representing not less than twenty-five years' purchase, to be fixed by the improvements committee in consultation with the finance committee, provided that the lessee be allowed to exercise such option only in cases where the buildings to be erected have been completed to the satisfaction of the architect in accordance with the contract for letting. The terms of leases are to be for periods of not less than eighty years or of more than ninety-nine years, the exact period being fixed in each case by the improvements committee, in consultation with the finance committee, before the publication of the conditions of sale. The improvements committee, in consultation with the housing of the working classes committee, are to be authorised to amend the conditions as to the sale of sites for the erection of buildings to accommodate persons of the labouring class, so as to provide that the buildings shall be constructed of good and suitable material and workmanship to the satisfaction of the architect.

COLWYN BAY is becoming increasingly attractive, and as a watering-place is a rival to Llandudno. Obligations are accordingly imposed on the local authorities to insure a high standard of sanitation. The local District Board have undertaken the construction of sewers, a pumping station and other works for discharging sewage into the sea. One of the landowners through whose property the sewers had to pass claimed 11,000*l.* as compensation. The case was referred by the Courts to arbitration. The works in question were authorised by a local Act which was passed in 1902, and they also came under the provisions of the Public Health Act, 1875. At the hearing it was contended that it was not competent for the arbitrators and the umpire to take evidence as to damage alleged to be caused by the exercise of powers other than the powers of the Public Health Act. That would narrow the scope of the inquiry, and application was made to the Higher Courts for advice on the point. The case was heard before the Lord Chief Justice, Mr. Justice RIDLEY and Mr. Justice DARLING as a Divisional Court. The Lord Chief Justice said that a question of considerable importance was raised, and the Court were unanimous in the opinion that the evidence ought to be admitted by the arbitrator, who then, if the facts warranted, should make his award in the form of a special case which would raise the questions of law involved. From this it will be evident that there is some indefiniteness at present about the limits of such an inquiry. As Colwyn Bay is not peculiar in carrying out operations under private Acts as well as the Public Health Act, it is to be hoped that no time will be lost before a decision on the subject is given.

IT is not unlikely that before many years there will be a competition for assessorships like that for architects' commissions. The Caversham new buildings committee have been divided about the choice of an assessor in the competition for a public library which is about to be erected. The sum proposed to be expended was to be not more than 15 guineas. In the report submitted to the Council the majority stated:—"They are, however, unable to suggest any method by which a competent assessor can be engaged at such a fee, and they therefore beg to resubmit their former recommendation, viz. that the Royal Institute of British Architects be asked to nominate an assessor to assist the committee in the framing of the conditions of competition and to adjudicate upon the designs submitted at a fee of 30 guineas, plus one-fifth per cent. upon the estimated cost of the buildings." The member who proposed the adoption of the report said he was opposed to paying so large a fee. The chairman had also had a conversation with Messrs. C. SMITH & SON, of Reading, and they were willing to undertake the judging of the designs for 15 guineas. That offer was accepted unanimously by the Council. If the state of the case were known there can be little doubt that offers would be received for the assessorship at a much lower amount.

JAMES BARRY, R.A.

THE last number of the *Journal of the Society of Arts* reminds Englishmen that on March 7, 1806, the body of JAMES BARRY, the painter, lay in state in the meeting-room of the Society. His name will long be associated with the walls of that room in the Adelphi which he adorned, and, moreover, as we are told, "BARRY, who quarrelled with most of his friends, always held the Society in high esteem, and the Society did not forget the artist who had devoted himself to its service." At the present time it is in the great room of the Society that we can realise the qualities of BARRY'S work. He was born in 1741, and it was in 1777 that he undertook to represent by a series of pictures the proposition that "the happiness of mankind is promoted in proportion to the cultivation of knowledge" at his own expense. A few years before he offered to join with other artists in decorating St. Paul's, and he selected as his subject "The Jews rejecting CHRIST." Failing in one place he resolved to try his fortune elsewhere in order to demonstrate to his countrymen the full extent of his powers. In the mind of BARRY there were some notions about progress or development, only, as he was a sincere Christian, he believed that the final stages were not to be reached in this world. "We begin," he said, "with man in a savage state, full of inconvenience, imperfection and misery, and we follow him through several gradations of culture and happiness, which, after our probationary state here, are finally attended with beatitude or misery." It would be impossible in six paintings to suggest the history of civilisation, and the spectator must fill up the gaps by his own imagination. Prehistoric man, as he lived in the Stone Age or earlier, was unknown to BARRY, or, if he imagined some such state, he ignored it. He began with Greece and ORPHEUS. Then came a Grecian harvest home, and, lastly, the triumph of athletes at Olympia. England then takes the place of Greece with a view of the Triumph of the Thames. A further stage is shown in the distribution of prizes by the Society of Arts, and finally we have Elysium, for which not even BARRY'S soaring imagination was able to give a revelation which could be convincing of happiness.

The paintings may now seem to us as not adapted for imitation, or, in other words, they are not founded on decorative principles. But if we consider the pictures on the walls of the Paris *mairies*, which are the most complete series in Europe, we shall find that there is as great a variety of subjects as BARRY attempted to deal with, and that the allegorical is also often mingled with the actual. We should remember that in the eighteenth century wall-painting in England was practically an unknown art. The Bishop of LONDON would not allow pictures by the foremost artists of the time to appear on the walls of his cathedral, and his action was approved by the king and by posterity. The Society of Arts was therefore in advance of the time when, in 1774, they proposed to decorate the great room with historical and allegorical pictures, the subjects of the former to be taken from English history, and the latter to be emblematic of the views of the Society. Applications through VAL GREEN, the engraver, were made to REYNOLDS, WEST, CIPRIANI, DANCE, ROMNEY, PENNY, MORTIMER, WRIGHT, ANGELICA KAUFFMANN and BARRY. Each was invited to paint one picture, and the remuneration was to be a share of the profits arising from an exhibition of the works. The proposal was not accepted. Three years afterwards BARRY made his offer through the same agent, and it was accepted, although it was not known to the committee who was the artist.

The paintings appear to have occupied BARRY for about six years. They were exhibited in 1783 and 1784, and a sum of 503*l.* 12*s.* was received from the 9,952 visitors. JONAS HANWAY was probably not the only visitor who paid a guinea instead of a shilling for admission. When he entered on the work BARRY, it is stated, possessed only sixteen shillings. In a short time he must have become alarmed about his means of living while engaged on the big pictures. All that the Society was to supply were paints and canvas. He was therefore compelled to ask that some of the members would subscribe 100*l.* a year for a couple of years, which he promised to repay out of the proceeds of the exhibition. BARRY was frank about the possibilities of failure. "If the exhibition produces nothing," he wrote, "or the Society should neglect to make one, you will then lose your money; but a public work will be completed, and I shall be happy, as the opportunity of throwing myself out on such a work will be to me a reward fully sufficient."

BARRY was not indifferent to the ordinary means of obtaining a livelihood while engaged on the wall-paintings. In 1774 he exhibited at the Royal Academy *King Lear and Cordelia*, *Antiochus and Stratonice*, *Mercury inventing the Lyre*, and a portrait of EDMUND BURKE. In 1775 his contributions to the Academy were *The Death of Adonis* and a drawing of PANDORA. In 1776 he sent the *Death of General Wolfe* and *Ulysses and his Companions*. That was the last year he contributed to the Academy. It is to be feared his easel works were not appreciated. BARRY, however, was paid 100 guineas for a copy of one of the portraits in the Society's pictures, another admirer bequeathed 100*l.* to him, and a third gave him 50*l.* His vigorous etchings from the wall-paintings yielded a profit of about 200*l.* He was able to purchase an annuity of 60*l.* a year, and at a later time, after he was dismissed from the Academy, 1,000*l.* was subscribed by friends, for which the first Sir ROBERT PEEL agreed to give him an annuity of 120*l.* yearly. It could not, therefore, be said that BARRY was at any time after he displayed his ability in danger of starvation. Besides, his wants were few. He was familiar with asceticism, and in one of his letters he said he would be content with bread and soup and a coat to cover him if he were able to paint amidst his books and casts and have the use of models whenever he required them. But he knew that he was impracticable in many ways, and before coming to London he wrote:—"I reflect with horror upon such a fellow as I am, and with such a kind of art in London, with house-rent to pay, duns to follow me, and employers to look for."

In London his philosophy was subjected to tests which he did not anticipate. There was no painter in England at the time whose education was so complete. The five years which he spent in Italy were devoted to a passionate study of art, with the result that his love of the antique grew stronger every day. Indeed, it is possible that his disputes, of which so much was afterwards made, arose out of dissatisfaction with men who called themselves artists, but who gave no signs of earnestness or enthusiasm. He also saw that amateurs through their ignorance were defrauded, and that pseudo-relics of antiquity attracted the patronage which should have been given to the works of living artists. It was in defence of art that BARRY tormented others as well as himself. He also was in arms against theories which prevailed not only among foreigners, but amongst his countrymen, about Englishmen being incapable of producing art of the highest class. But when he came to England he found that affairs were even less favourable than he had imagined, and he thought he was showing a practical spirit when he proposed to charge for a painting by the number of figures in it.

It cannot be said that the Royal Academy was unfavourable to him. He came to London in 1770, he exhibited an *Adam and Eve* in 1771 and a *Venus Rising from the Sea* in 1772. The latter work gained him an associateship, and in 1773 he was elected an Academician. According to JOHN FORSTER, BARRY'S dislike of the President was manifested from the time he returned to England, and was a subject of discussion between him and GOLDSMITH. It was only natural that BARRY should be in opposition to many of

Reynolds's theories. The President was in favour of Renaissance art, and approved of the compromise of incongruous qualities which was known as eclecticism. Barry was in favour of the great Italians, but he believed that for form the ancients were the only masters. His enthusiasm for Greek art was unbounded. "What," he asks in one of his lectures, "were the few touches about the brows and hair of Homer's Jove when compared with that wonder of the world, the statue of Phidias at Olympia? What ideas must have been entertained of this statue when the inquiry was whether Jove came down to show himself to Phidias, or whether Phidias had been carried up to see Jove?" It was easy for a man of Barry's idiosyncrasy to imagine that as Reynolds could only paint portraits he was not disposed to encourage art in any other form. Barry held that a great many of the obstacles thrown in the way of superior art—*i.e.* the art which he was resolved to follow—were owing to the secret workings and machinations of interested artists who played the part of the dog in the manger. When Barry was appointed professor of painting it was easy for him to believe that the contracted and beggarly state of the Academical Library was part of a plan to hamper him as well as to divert English art students from the right way. Barry was a reformer, but he was deprived of the power of putting things properly. He was not an easy man to live with or to work with. He was not systematic in his operations, and there is some excuse for the Academicians if they rebelled against an unsuccessful man who took care to make them feel he was their superior, and whose lectures contained many heresies. If Reynolds had lived it is not unlikely that he would have prevented the proceedings which ended in Barry's expulsion from the Academy. But he had been lying in St. Paul's for seven years, and it was not until 1806 that Barry's remains found a place near him in the crypt.

James Barry was one of a line of artists who have been carried away by a belief in their own power of creating forms which are superior to those of ordinary men and women, and who toil in representing incidents which are supposed to be more exalted than those of ordinary life. Such votaries of the ideal generally have to endure a life of martyrdom. But we must respect their motives. Some of them may take pecuniary difficulties as lightly as Micawber or Skimpole. But Barry was not a man of that kind. He was rather proud of being sacrificed for art. If at the end of the eighteenth century the decoration of another public building in London had been offered to him on similar conditions to those of the Society of Arts, we are confident that he would have undertaken the work with alacrity. He was perhaps more eager to paint the progress of theology than the progress of the arts. Yet there was no institution at that time where he could be allowed the opportunity. In no country was there ever a stronger enthusiast or one who had more of the spirit of self-denial in everything except speech. But he was not adapted for life in a country where business principles are expected to be adopted by all men. Barry would perhaps have painted better if somebody took care of his domestic arrangements, for it is not good for artists as for other men to live alone. But he was too honest to make others suffer through his devotion to art.

By Joint Arrangement between the Crown authorities in Scotland and the Linlithgow Town Council, important improvements are being carried out in the grounds of that old historical landmark, Linlithgow Palace. These include the construction of lavatory accommodation, a provision the absence of which, in view of the increasing popularity of the town and district as a summer holiday resort, had been frequently commented upon. In recent years much has also been done to the ancient palace itself by way of repairing and preserving those parts most affected by the stress of wind and weather.

GLOUCESTER CATHEDRAL.

We published last week the appeal of the Lord Lieutenant of the county of Gloucester for funds to carry out indispensable works in the tower and other parts of Gloucester Cathedral. From the statement which was made by Mr. Waller, the architect, at a meeting on Saturday it is supposed that the injury was caused by some earth movements to which the western parts of England were recently subjected. Whatever the cause, there is urgent need of reparation to the glorious central tower. The risks can be judged from the following statement:—"Not only are the more ornamental features rapidly disappearing, but the fabric of the tower is being seriously damaged owing to the perishing of the protecting mouldings of the stonework in many places. Wet has penetrated through the large joints, and is gradually loosening the stonework, and even showing on the inside of the building. A recent fall of some of the stonework in connection with the groining of the choir roof in the immediate neighbourhood of the tower has been of a very alarming nature."

Gloucester Cathedral can claim public attention and public support for two important reasons. It has historical interest and it has architectural interest. If we possessed an organisation like the Historic Monuments Commission of France the cathedral would be one of the first buildings which would come under its control. The city was at one time almost a capital. Edward the Confessor repeatedly went there; it had attractions for the early Norman kings, and Henry III. loved Gloucester better than London. He was crowned in the abbey church. The siege of Gloucester by Charles I. was one of the great events of the Civil War. But in the Middle Ages the incident which gave to the cathedral a national importance was the bringing the body of Edward II. to the abbey by the Abbot Thokey from Berkeley Castle and the burial of the corpse in the choir near the great altar. This was a courageous act, for the monasteries of Bristol, Kingswood and Malmesbury had through fear refused to receive the remains. By Edward III. special privileges were granted to the abbey in return for the reverence shown to the late king, his father. The monks were rewarded in another way, for a large revenue was derived from the offerings of pilgrims who wished to pray at the tomb of the murdered king, and the money appears to have been wisely expended on building.

The architectural interest is remarkable. According to tradition there was an abbey founded in Gloucester in the seventh century. It is believed that the foundations of the cathedral were laid in the eleventh century. A remarkable drawing was made some years ago by Mr. F. S. Waller showing the extent of the Norman work of the eleventh and twelfth centuries which still remains in the building, and which is almost enough to suggest that its strength depends in a great measure on the Norman substructure. But it is in respect of later Gothic that Gloucester becomes an influential factor. The debt to it has been described admirably by Mr. Francis Bond in his encyclopædic volume on "Gothic Architecture in England":—

> The supreme importance of Gloucester in the history of the later Gothic has never been adequately recognised. She turned the current of English architecture in a wholly new direction. But for Gloucester English Decorated work might well have developed into a Flamboyant as rich and fanciful as that of France. But to the remotest corners of the land, to cathedral, abbey church, collegiate and parish church, there was brought the influence of Gloucester by the countless pilgrims to the shrine of Edward II. in her choir. In the first place, she set the greater churches the fashion which had long prevailed in the parish churches of remodelling rather than rebuilding. At Gloucester Norman choir and transept were not pulled down to the ground to be rebuilt, but only the clerestory. A similar treatment, more or less conservative, was adopted in Malmesbury nave, Tewkesbury

choir, Winchester nave, Malvern, Norwich choir, Sherborne, Oxford Cathedral. Throughout England the new stained glass of Gloucester was adopted; throughout England big aisle and end windows were inserted, and tall clerestories were erected to hold it. Everywhere the tracery of the windows became, as at Gloucester, rectilinear; and the whole church was brought into harmony by spreading rectilinear panelling over wall, buttress, battlement, tower, even over the fan vaulting. Gloucester taught Sherborne how to dispense with flying buttresses in her vaulted nave. Gloucester exhibited the utmost exuberance of lierne vaulting. Gloucester transept brought every rib of the vaulting into the organism of the pier. Gloucester choir converted clerestory wall into clerestory piers; and on this skeleton construction poised her lierne vaults midway amid the painted glass—an audacity of construction which to the very end of English Gothic remained unrivalled. All these great things were wrought in Gloucester by the middle of the fourteenth century.

Gloucester is exceptional in possessing documents which might be supposed to serve for a complete history of the buildings. The Abbot Froucester, who was appointed in 1381, began to compile a chronicle which he continued until 1412. But, like the majority of ecclesiastics, he does not give information concerning the manner in which the buildings were planned or designed. In the eighteenth century Froucester's materials were treated by Archdeacon Furney for a new history. In fact, Gloucester Cathedral has been a favourite subject with historians and archæologists.

The Norman kings, as we have said, were for some unknown reason attracted to Gloucester. They had a palace or *Aula Regis* in the north of the city. The monks of the abbey of St. Peter were able to obtain many valuable privileges from them. According to one of the records "they had *sac*, *soc* and *theam* and *infangenetheof*; they were quit of *carriage*, *summage* and *conduct*, *king's tallage*, and all royal works and unjust exactions; whatever they bought, sold or consumed was exempt from toll, custom, passage or pontage; wherever they went they might pass unmolested, under pain of forfeiture to the king from any offender in *wick* and *vill*, in wood and in plain, on land and water, on sea and in port." They had also free warren in their Gloucestershire estates and beyond the Severn. Wherever their authority prevailed no one was to pursue any game or take fish from the waters without their permission. Even the king's foresters, huntsmen and archers on the Welsh side of the river and in the Forest of Dean were to surrender a tithe of any venison obtained in the forests. After the death of Henry III. the abbey suffered, and in 1323 a petition was presented in which it was stated:—"That the church of the monastery, built by pious founders of olden time for Divine worship in a sumptuous style, had long ago for the most part fallen down through mere antiquity and decay and the remainder threatened soon to fall; that they had laid out large sums in the repair thereof, and that more must be expended in work newly begun; that the monastery, situated in a public place and famous town, was subject to a very great burden of hospitality from the reception of persons resorting thither in very great numbers from divers parts of the world." Four years afterwards Edward II. was murdered and the monks expended far more than they could afford on the royal funeral. The pilgrimages which followed brought to the Treasury large sums which enabled the monks to undertake the work which had long been desired in the abbey. Abbot Thokey was said to have erected the south aisle of the nave in 1318, but he resigned in 1329 and left to his successor John Wygemore the carrying out of the alterations which were desired. He held office for only eight years, but some writers give him credit for more work than could have been performed in that time. As it is recorded of him that he presented vestments embroidered by his own hand in gold with figures of birds, we may assume that he was an artist, and as he was described as being skilled in mechanics, we suppose that means experience in construction. Works were carried on under his successors, Adam de Stornton and Thomas de Horton, for a period of forty years.

In the fourteenth century the monks would probably have attempted a more general transformation of the great church than a remodelling if it were practicable. Four centuries afterwards Bishop Benson, realising that the piers were not in keeping with the upper parts of the cathedral, proposed to flute them in order to give them a lighter appearance, and the work would be done at his own expense. But it was found that the strength would be greatly diminished, for the Normans had constructed the piers with an exterior lining of dressed stone, while the interior was filled with rubble. The attempt had to be abandoned. The abbots therefore in the fourteenth century commenced their operations at a higher and safer level. In the choir they were able to be more thorough, and it now appears as if that part were entirely an addition of the Perpendicular period. To the Norman builders what would have appeared most of an innovation was the sacrifice of so much solid wall and dim religious light by the substitution of what may be called walls of glass. The windows are of very large area. There are lovers of antiquity who do not approve of this change. E. A. Freeman said that he was disposed to add a new count to the articles of deposition against Edward II. because the devotion inspired by his remains "has lost us the minster of Serlo in its present form, and hinders us from studying the contrast which we should otherwise have been able to mark between its eastern and its western limit." The work in the choir may, we think, be credited to Thomas de Horton, as well as parts of the cloister. Walter Froucester completed the cloister. Abbot Morwent, who reigned between 1420 and 1437, erected the west front and the southern porch. The great tower, of which the condition now gives rise to much alarm, is supposed to have been commenced by Abbot Seabrook in 1450, and it is believed it was completed in seven years by Tully, who was one of the monks. It is therefore among the late works, the lady chapel and the chapter-house coming last. The tower would confer dignity on any city, and it may be taken for granted that Gloucester in general will lose no time in taking precautions against all danger to it and the entire cathedral.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at the premises in Tufton Street, Westminster, Mr. John Murray, vice-president, in the chair.

Messrs. J. B. Scott and P. W. Pocock, jun., were elected members.

A vote of thanks was passed to Mrs. James Scott Stewart for a donation of books and photographs.

Mr. G. H. Lovegrove delivered a lecture, illustrated by lantern views, entitled—

A.A. Camera and Cycling Club Excursions.

He said:—It has been impossible during the fourteen days at my disposal to prepare a connected, much less a scholarly paper. I therefore propose, in briefly describing some photographs as they are thrown on the screen, to give an idea of the buildings visited by the A.A. Camera and Cycling Club during the past few years. The majority of our members do not make lantern slides, and very few, if any, of the remainder possess a complete set of slides made from the negatives taken on these visits, so that the views shown will only represent a very small percentage of the photographs taken.

The most cherished photograph often proves a disappointment when developed, and again, as our photographs are not taken with the view of forming part of a lantern lecture, very few of a general character will be shown. I have arranged the slides of the various buildings together, but no one building will be exhaustively illustrated. I have also omitted to mention those buildings which are only represented in my collection by one or two slides, in order to avoid change of subject as far as possible.

One of the most beautiful and interesting buildings we have visited is the Priory Church of Christchurch, hard by Bournemouth, containing specimens of every period of architecture, from the early, possibly Saxon crypt, to the Renaissance of its chantries. The church has, as is usual with our larger churches, legends connected with its foundation and construction, but with these I will not delay you. The site is close to the junction of the rivers Stour and Avon on the flat lands, and the first mention of a church here is made in the time of the Confessor. This church, held by a dean and college of secular canons, was swept away by Ranulf Flambard, the chaplain to William II., and it is suggested that before he was appointed to the bishopric of Durham, in 1099, he began the present church, of which part still stands. The earliest existing remains are the nave arcades, the triforium and the transepts, with the eastern apsidal chapel attached to the south transept. Next in date are the walls of the western aisles of about the beginning of the thirteenth century, the clerestory of the nave followed by the vaulting of the western aisles, the north porch and the chapel attached to the north transept. The rood-screen and the reredos belong to the fourteenth century. Early in the next century the lady chapel was completed, and somewhat later the western tower and portions of the choir. From an inscription on the vaulting of the choir we know that this was completed between 1502 and 1520, while later still is the chantry at the east end of the south choir aisle, and in 1541 the famous Salisbury chantry. The stalls and misereres are of various dates from 1200 to 1500.

From Christchurch we visited Wimborne Minster, a comparatively small building containing a great many interesting details, but, owing to the journey and the church services, very little time was left for photography. At the western end of the late Norman nave several bays were inserted in the fourteenth century when the church was lengthened. The choir is mainly of thirteenth-century date. The east window, which is impossible for photography from the exterior, is illustrated in Parker's "Introduction to Gothic Architecture." This portion of the building covers a crypt reached from the aisles through an archway, over which is the beautiful tomb to John Beaufort, who died in 1444. The label stops on the arches over the entrances to the crypt are of great interest. The sedilia, which are of very great beauty, unfortunately are not illustrated. No one visiting Wimborne should miss the museum in the celebrated chained library.

With the modern facilities for cheap travel a week-end in Belgium is of small moment, for one can leave London at 9.0 P.M. and be photographing in Bruges by 4 A.M. next morning. The street opposite the station takes us past the cathedral to the Market Square, one side of which is formed by the Cloth Hall and its celebrated belfry. The Cloth Hall was built in the thirteenth and fourteenth centuries, and altered in 1561. The courtyard contains some interesting Renaissance detail. The eastern wing holds one of the most remarkable collections of local relics it has ever been my good fortune to visit, and several days could be spent in studying the specimens of iron hinges, door handles, &c., apart from the other exhibits. The belfry was begun in 1282 and finished at the close of the fourteenth century. The statue over the entrance represents the Madonna. Continuing along the south side of the Square we reach the town hall, begun in 1376 and restored in 1871: adjoining is the old municipal record office, built in 1535, and now the law courts. The façade is gilded over the greater portion of its surface and so presents great difficulties to the photographer. Passing under the archway of the record office we reach the Quai de Rosaire, adjoining the fish market, and many interesting photographs may be taken. Continuing along the back streets we reach the church of Notre-Dame, opposite the Memling Museum, the most interesting portion of which is the old north porch. A walk along the canal encircling the city brings us to the various gateways. From Bruges a cross-country railway journey brought our party to Ypres, a grass-grown city surrounded by ramparts. The most interesting features, apart from one or two houses, are grouped round the cathedral and Cloth Hall. As it was Sunday when we arrived the cathedral was left untouched, but the Cloth Hall, completed in 1304, provides an abundance of subjects. Over the entrance through which the cathedral square is reached stands a statue of John I. of Brabant. The interesting way in which monotony in so long an elevation is avoided by the alternate use of blank windows filled by statues should be noted. Adjoining the Cloth Hall is the town hall, erected during the sixteenth century, the ground floor being an open arcade about 20 feet wide surrounding a vaulted hall. Behind and adjacent to this is the Conciergerie, perhaps the most interesting building in Ypres. Passing under the arcade we see the side elevation of the Conciergerie to the cathedral square, and the cathedral tower with the Cloth Hall in the background. The domestic buildings in Ypres are uninteresting compared with those in Bruges or Ghent; the best example is found at the end of the town furthest away from the station.

We now come back to England and visit Peterborough. Approaching the cathedral from the station one passes the Guildhall, built in 1671. Immediately opposite the entrance to the Close we see the west front erected probably about 1238, the porch being a fifteenth-century addition to support the central piers. The Deanery gateway, built about 1520, is of considerable interest, owing to the carvings of the arms and the rebus of the prior (Robert Kirkton), the Tudor rose and portcullis, the Prince of Wales's feathers and the triangle of the Trinity. To the south of the cathedral are the ruins of the cloisters, whence may be seen the grouping of the western towers. At the east end is the "new building," 1438-1528, from which until the seventeenth century the lady chapel projected. The nave was commenced about 1117, and is of unusual length. It is uncertain whether the Norman west front was ever completed. The font of thirteenth-century date is placed in the south-western transept. The eastern transepts and the tower are ceiled like the nave with wood, the bosses in the crossing being very finely carved. The transepts are of similar date to the choir, but the eastern and western arches of the crossing are of the fourteenth century. The choir contains in the triforium the earliest example of tracery; the marble paving and the baldachino were completed in 1894. The aisles of the choir contain some details of interest, such as the double piscina in the north and the ruined monument in the south. The three remaining misereres of Mediæval date are fastened to a board in the south choir aisle. The new building was erected beyond the apse at the end of the eighteenth century, and is the width of the choir and aisles together.

Within easy reach of Peterborough is Stamford, a fascinating town containing many interesting houses and magnificent churches, while those interested in the work of John Thorpe may study Burghley House, of which he is supposed to be the architect. Its style, however, did not please the fancy of our members, and no photographs were taken. Close to the hotel in St. Mary's are several small houses of interest, as also in St. Martin's on the road to one of the entrances to Burghley Park, but to the Mediævalists All Saints Church is the chief attraction. Almost every capital in the church provides a distinct subject; the roof corbels, vaulting-bosses and almost every portion of the church are worthy of record. St. Leonard's Priory, on the outskirts of the town, and now used as a barn, is of great interest. A short drive from Stamford on the Oundle road is Warmington, where St. Mary's Church provides a day's work. The building, including the wooden groining of the roof, is of thirteenth-century date throughout. One mile from Peterborough is Thorpe Hall, where Colonel Strong kindly gave us free access to every portion of the building. According to Mr. Blomfield, the house was commenced from Webb's designs shortly after the death of Inigo Jones, and is dated 1656. The design is directly inspired by Inigo Jones, and is uninfluenced by Wren.

Greenwich Hospital has been visited twice by our members, and is always a source of interest. When Wren commenced work here there were two buildings on the site; the house facing the park, designed by Inigo Jones, and the unfinished palace begun by John Webb from designs by Inigo Jones for Charles II. Wren completed King Charles's block, and making the queen's palace the centre at the extreme south, designed two courts with colonnades facing each other running northwards towards the river until they joined the great court, the west side of which was already occupied by King Charles's block, opposite which he built Queen Anne's block. The junction of the colonnades with the great court was marked by two domes surmounting the entrances to the chapel on the east side and the hall on the west. Hawksmoor continued the building of the south-western or King William's block, and it was finished by Vanbrugh.

Among the City churches we have visited Christ Church, Newgate Street, and slides are shown of the litany desk formerly the door of the reading desk, the panels of which now make the front of the choir stalls. These have all been cleaned, and present an entirely different appearance from the pulpit. The font of St. Stephen's, Walbrook, is of great beauty, and offers a more successful subject to the photographer than the body of the church, which is too small in area for work with the camera. The font at All Hallows, Lombard Street, can be taken by artificial light, but the church is far too dark for successful exposures.

Hereford forms an excellent centre for a visit, although the town itself contains little of interest except the houses formerly known as Butcher's Row. The cathedral tower is profusely ornamented with the ball flower, but owing to the condition of the stone the larger part of the exterior has been refaced, and the chief points of interest are the north transept tower and the north porch. The cloisters are almost all new. The south transept seems to have been built about 1115 and the north in 1240 by a foreign bishop, whose tomb is in the aisle of the north transept, where also is the temporary resting-place of an effigy with beautifully carved robes, of Bishop Westphaling, who died in 1620. The font is of about twelfth-century date, and is carved with the figures of the Twelve Apostles; the lions supporting the base are of exceptional interest. The nave arcade is of great beauty, but it has suffered both accidentally and at the hands of Wyatt and other restorers, and practically above the crown of the arches has been rebuilt at one time or other.

The chief points of interest in Ludlow are the castle, the church and the Feathers hotel, where many subjects are ready to hand. As it was Sunday when we visited the place we could not obtain admission to the church. To the east of the church is the Reader's House, an early seventeenth-century building in half timber.

Ledbury, of which I have but two slides, is a charming village filled with good buildings. The market house is one of the easiest to photograph, and certainly the most striking. At the top of the town is Sir Michael Biddulph's house, of great size and interest. From Hereford we drove to Kilpeck, where the remains of the castle and the little Norman church were visited. The church, as is well known, was rebuilt in 1848 stone by stone, but nothing was recent, and new stones were not used, except the one in the tympanum of the south door. The remarkable freshness of the carving is a striking contrast to the condition of the stone at Hereford and Ludlow.

The few slides I have shown will give some idea of the extreme variety of the architecture visited, and I believe studied, by the members of the Camera and Cycling Club during the past few years. I have omitted, owing to want of time, illustrating several of our most interesting visits, such as those to Gloucester and district, Hampton Court and Morden College, for it would be easy to occupy several evenings with accounts of our excursions. In conclusion, I would point out that the excursion to Winchester next Easter will be open to all members of the A.A., and that those who go will find that the members of the Camera and Cycling Club form a very sociable section of the Architectural Association.

Mr. Matt. Garbutt, in proposing a vote of thanks to the lecturer, said Mr. Lovegrove had proved himself to be an interesting guide to buildings that were familiar to most architectural students.

Mr. E. W. Wonnacott, who seconded the motion, said he had no remarks to offer because they had had merely a stop-gap lecture. He could sympathise with Mr. Lovegrove in what he had done at short notice. It was a difficult task, and speaking from personal experience the speaker thought it generally a thankless one. Referring to the Architectural Association's excursions, his advice to ardent members could be summed up in two words, "Try them."

Mr. W. J. Leverton supported the vote of thanks.

The Chairman, in conclusion, said their thanks were due to Mr. Lovegrove for having prepared an interesting lecture at such short notice. Photography was undoubtedly a considerable aid to the study of architecture, and they had seen the vast field that awaited the student. The lecture did not offer points for discussion, but he hoped that in the future they might have, at not infrequent periods, papers of the same kind, but with longer notice given for their preparation.

Mr. J. Riley, chief assistant engineer to the Bloemfontein Town Council, has been appointed town engineer of Germiston at a salary of 600*l.* per annum.

NORTHERN ARCHITECTURAL ASSOCIATION.

THE annual meeting of the Northern Association was held under the chairmanship of Mr. J. T. Cackett (president) on the 7th inst.

The report of the Council for the forty-sixth session was read by the honorary secretary, Mr. A. B. Plummer. The report expressed the pleasure of the Council in again recording the increased success of the Association. During the session, and since the last report, two members, nine associates and fourteen students were elected, as compared with nine members, ten associates and thirteen students during the previous twelve months. The roll of students for 1906 was as follows:—Members, 78; associates, 72; students, 70; total, 220. The Association recorded with regret the death of Mr. Francis Caws at his residence in Sunderland. The report stated that Mr. Caws was a prominent architect, two of his principal works being the suspension bridge at Stanhope and the shed at Messrs. Swan & Hunter's Wallsend shipyard, under which the largest vessel in the world is being completed. Sympathetic reference was also made with reference to the late Alderman W. H. Dunn, of Gateshead.

The report of the treasurer showed a total income of 271*l.* 2*s.* 8*d.*, the cash balance from 1904 being 79*l.* 2*s.* 7*d.* The total expenditure amounted to 267*l.* 8*s.* 7*d.*, leaving a balance in hand of 3*l.* 14*s.* 1*d.* It was stated in the annual reports of the students' sketching club and the students' classes club that the memberships were twenty-two and twenty-nine respectively.

The hon. librarian's report stated that the books in the library had been in great demand. There had been a number of valuable additions to the collection.

The drawings submitted for the Northern Architectural Association competition were exhibited. Mr. Bryan Watson was successful in securing the Glover bronze medal. Only one set of drawings, however, was submitted for this competition.

The award of the assessors in connection with the essays competition was read by the Chairman, who expressed his regret at noting that there had been only two competitors that year. The two entrants were placed as follows:—Mr. William Stockdale (under the motto of "York"), of North Shields, 1; Mr. Arnold Sutherland Constable ("Essayez"), of Stocksfield-on-Tyne, 2.

On the proposition of the Chairman, a vote of thanks was accorded to the honorary secretary, Mr. A. B. Plummer, for his services to the Association, it being also decided to record in the minutes appreciation of Mr. Plummer's work in connection with the alterations to the Association's premises.

The President intimated that considerable interest was being shown in regard to his suggestions for the proposed alteration of New Bridge Street. He believed that his ideas would influence the City Council in their line of policy in reference to the alterations.

ARCHITECTS' BENEVOLENT SOCIETY.

THE annual general meeting of the above Society was held in the rooms of the Royal Institute of British Architects on Friday, the 9th inst., Mr. J. Macvicar Anderson in the chair. The honorary secretary read the report of the Council, in which they express regret that, judging by the number of claims made upon the Society, the past year seems to have been one of exceptional difficulty for many of the less fortunate members of the architectural profession. It was found, moreover, that the demands made upon the Society were beginning to outweigh the funds at the disposal of the Council, and the president (Mr. John Belcher) acceded to a suggestion that he should issue a personal letter of appeal which was sent out to 5,280 architects practising in the three kingdoms. He directed attention to the fact that although this Society had been in existence for over fifty years, and was the only Institution organised specially for the relief of architects or their widows and orphans, not more than 1 per cent. of architects in active practice contributed to its support. As the income had suffered in recent years from the loss of many liberal contributors, the President appealed particularly for subscriptions, and as a result they have been increased some 20 per cent., while a considerable sum has been added to the capital. In connection with the appeal, the Council call special attention to an offer of a donation of 50*l.* by Mr. Walter Emden, if nine other contributions of an equal amount are received, but so far the offer has been only supported by Mr. W. Glover, Mr. H. Chatfeild Clarke and the Society of Architects.

In moving that the report and statement of accounts for the year 1905-6 be received and adopted, the Chairman said that in some respects the report seemed to him satisfactory, inasmuch as the subscriptions have increased, although the fact remained that the efforts recently made in that direction have only been partially successful, and he ventured to hope that Mr. Emden's offer would be fully responded to. The motion having been seconded by Mr. H. L. Florence, was carried unanimously. A vote of thanks, proposed by Mr. A. Ashbridge and seconded by Mr. G. Scamell, was next accorded to the retiring members of the Council. The election of Council for the ensuing year was moved by Mr. Andrew Taylor and seconded by Mr. A. O. Hills. The following is the complete list of the Council:—

Mr. John Belcher (president), Mr. W. Glover (vice-president), Mr. Rowland Plumbe, Mr. G. T. Hine, Mr. Ambrose M. Poynter, Mr. William Grellier, Col. R. W. Edis, C.B., Mr. H. L. Florence, Mr. G. B. Bulmer, Mr. F. W. Hunt, Mr. W. L. Spiers, Mr. A. Ashbridge, Mr. W. Emden, Mr. Reginald St. A. Roumieu, Mr. H. Chatfeild Clarke and Mr. A. Saxon Snell.

A cordial vote of thanks to Mr. W. Hilton Nash for his past services, and re-election as honorary treasurer of the Society, was moved by Mr. Christopher and seconded by Mr. Rowland Plumbe. In response Mr. Nash said that it had been to him a labour of love for some years, and it was a matter for congratulation that they had been able to give away last year the largest sum of money during the term of the Society's existence, and they had increased their capital. He urged that they should all try to influence new members to join the Society.

A cordial vote of thanks to Mr. Percivall Currey for his past services and his re-election as honorary secretary was moved by Mr. Rowland Plumbe and seconded by Mr. Christopher. A vote of thanks to the auditors, Messrs. Perks & Greenop, and their re-election for the ensuing year, was moved by Mr. Grellier and seconded by Mr. Spiers.

Mr. Nash then moved, and Mr. Spiers seconded, that the following be inserted after By-law No. 7:—"Societies and corporate bodies who are now or may become annual subscribers of not less than ten guineas, or donors in one sum of not less than fifty guineas, shall be entitled to be represented on the Council by their President or Chairman for the time being, who may also vote at all general meetings and shall be entitled on behalf of his Society to the same privileges as those of individual donors or subscribers."

This having been carried unanimously, as also were the other resolutions, a vote of thanks to the Royal Institute of British Architects for the use of rooms in which to hold their meetings and for office accommodation was moved by Mr. H. L. Florence and seconded by Mr. Nash.

The proceedings concluded with a hearty vote of thanks to Mr. Macvicar Anderson for presiding at the meeting, and for the great interest which he had always shown in the Institution.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

At the rooms of the above Society on Thursday, the 8th inst., Mr. H. Phillips Fletcher read a paper on the "St. Louis Exhibition," Mr. G. B. Bulmer in the chair. The lecturer said:—It is possible that some few of us are but dimly aware of the great event which the World's Fair at St. Louis commemorated. It was the centenary of the purchase of the Louisiana territory from Napoleon by the United States Government. The first organised action for the holding of the exposition was taken in 1898, and it was determined in the typical American fashion to make it the "biggest" ever held in the history of the world. Fifteen million dollars was the amount of capital which was proposed for the financing of the enterprise. Five million dollars of this was raised by public subscription from the citizens of St. Louis, five millions by the issuing of City bonds, and the remaining five millions was appropriated by the United States Government, together with the support of the latter. Later this capital had to be considerably augmented. The site chosen for the exhibition was a good one, being situated on the western limits of St. Louis. In all there were over 1,240 acres, 250 of which were roofed in. The general scheme of the plan was designed by a committee of American architects, amongst whom were such men as Cass Gilbert, Carrere, Hastings, Hames and Link, and it resembled a lady's open fan. The centre of the picture, or what may be likened to the handle of the fan, was the festival hall, situated on the top of the hill. Flanking the festival hall on either side was the colonnade of states, formed in a crescent, with a restaurant pavilion at each extremity. The face of the hill in front of these was terraced, and three series of cascades discharged 90,000 gallons of water per minute into the grand basin at the foot. From the hill as the focal point three main avenues radiated like the ribs of a fan, offering a vista terminated with the highly decorative features of the festival hall and the colonnade of states. A grand transverse avenue crossed three main avenues, and gave the general outline to eight of the main exhibit buildings. The lecturer then described the engineering of the exhibition. The construction of the main buildings was under the control of the division of works, and it was decided to erect these in timber partly owing to the then congested state of the steel market and partly to save expense. Internally, the buildings were intended to be finished in plaster, but this and much of the colour scheme for the exteriors had to be omitted owing to lack of funds. Some idea of the enormous size of the exhibition may be gained from the fact that the average height of the cornice level to the buildings was 60 feet from the ground. The lecturer then described in detail the festival hall, colonnade of states, restaurant, pavilions, cascades and gardens, United States Government building, mines, liberal arts, education, manufactures, electricity, varied industries, machinery, transportation, agriculture, horticulture, forestry, administration, Washington State and foreign buildings. Perhaps one of the most surprising facts of all the wonders of the World's Fair was that with all the inventive genius at the disposal of the American race, so few original architectural efforts were made. The architects of the mines and transportation buildings alone made any attempts at conceiving original designs.

Mr. Fletcher in his lecture dwelt especially upon the great success that attended the efforts of the British craftsmen and manufacturers, and stated that the technique and finish of their exhibit were far superior to those of any other nation, though as regards modern design in conjunction with modern requirements we were not so successful. He specially mentioned the fine exhibits of Messrs. Waring & Gillow and Messrs. Trollope & Sons and Colls & Sons, who were recipients of grand prizes. Nearly 700 awards were made to representatives of the Mother Country. Much of the success of the exhibition from a British point of view was due to the ability and organising efforts of Colonel Sir Charles Watson, R.E., K.C.M.G., C.B., who succeeded in having the British sections ready and the catalogues completed by the opening day, a feat that was not accomplished by any other nation.

The lecture was illustrated by lantern slides.

The following officers were nominated for the ensuing session:—President, Mr. H. S. Chorley, M.A., A.R.I.B.A.; vice-presidents, Messrs. P. Robinson (F) and S. D. Kitson, M.A. Hon. treasurer, Mr. G. F. Bowman. Hon. librarian, Mr. F. Musto (A). Hon. secretary, Mr. A. E. Kirk (A). Members of Council—Messrs. W. G. Smithson (A), F. E. P. Edwards (F), C. B. Howdill (A), H. A. Chapman (A), A. R. Hill (A) and G. E. Reason (Assoc. Member).

EDINBURGH ARCHITECTURAL ASSOCIATION.

A MEETING of the Edinburgh Architectural Association was held on the 6th inst., when a paper was read by Mr. R. S. Lorimer, A.R.S.A., architect, on "Scottish Gardens and Garden Architecture." In the course of his remarks, Mr. Lorimer laid stress on the fact that there was at the present time a great interest taken in gardens. He gave a sketch of the development of garden design in Scotland, and spoke of the relation between the garden and the house. A historical account was given of some of the principal gardens in Scotland, and these were described, and Balcaskie in Fife was instanced as the ideal of what a Scottish country gentleman's garden ought to be. It was a fine specimen of a terrace garden. The lecture was illustrated by lantern slides, which showed some of the gardens of Scotland, and their sculpture and architectural setting, and another series illustrating some foreign—French and Italian—garden sculpture.

Charing Cross Railway Station will be reopened for traffic on Monday. The structural alterations in progress will prevent a full service of trains.

NOTES AND COMMENTS.

It is generally known that Trinity College, Dublin, which is the University, stands on ground which at one time was occupied by the monastery of All Hallows. There exists, it appears, a plan at Hatfield House on which the monastery is represented as a large square, with a steeple on the north side. What is not known to all the inhabitants of Dublin is that a river ran down Grafton Street by the monastery, and that the fall was sufficient to turn a mill. Sir Thomas Drew, in the course of the excavations for the new college buildings, discovered remains of a landing-place, which would suggest that the monks were able to bring boats from the river Liffey. The river must have been of some extent, for during a flood a wall was overturned. College Green was in the sixteenth century of a much larger area than it is at present. Sir George Carey obtained part of it in 1602 as a site for a mansion, which was afterwards taken down and the Houses of Parliament, now the Bank of Ireland, erected on the site. Various other encroachments followed, and there is little doubt the present open space would have been much diminished if it were not for the opposition of the students.

According to the Northern Farmer, "Proputty, proputty's ivrything 'ere." Blackstone put it in another way by describing it as a right inherent in every Englishman. By English law it is divided into real and personal, and in Scots law it is either heritable or movable. Mr. Wemmick, of "Great Expectations," had for a guiding star the maxim, "Get hold of portable property." Now we know from Blackstone that we can also have property of an unsubstantial kind, such as certain rights and privileges. In modern times electricity would appear to come under that class, for although it can exercise enormous power both of construction and destruction, he would be a bold man who would describe it as substantial. It cannot be considered as real property, and therefore by English law must be considered as personal. Such is the conclusion which has been arrived at by the California Court of Appeal. A water company entered into a contract with a light and power company for the delivery of electricity. When, after going through the lower Courts, the case came before the higher Court, it was decided that as property which is not real must be personal, electricity must be regarded as personal, and as such there was a breach of contract in not delivering it as agreed on.

The case of Frederick Betts, Ltd., *v.* Pickfords, Ltd., contains some expressions of judicial opinion of interest to architects. The plaintiffs had leased from the defendants a plot of land for the purpose of building thereon a warehouse and show-rooms, the plans of which had been approved by the defendants. These plans showed that the first floor of the warehouse was designed as a show-room, and that it had three windows in the south wall overlooking the defendants' premises. This south wall was meant to be an external wall and not a party wall. The defendants undertook to demolish some old buildings which occupied the site of these projected new buildings. They demolished them, but left a cart shed on the borders of their land, the roof timbers and cross stanchions of which projected 4 inches over the boundary. These roof timbers and stanchions were, with the consent of the plaintiffs' architect, but without the express authority of the plaintiffs, built into the south wall of the plaintiffs' warehouse. Consequently the district surveyor served a notice upon the plaintiffs under the London Building Act 1894 requiring all three windows in the south wall to be bricked up, on the ground that it had been converted by the defendants' user into a party wall. The plaintiffs then applied for an injunction against the defendants to restrain them from using their wall as a party wall. Justice Kekewich held that they were entitled to this relief. The defendants had granted the land to the plaintiffs for a specific purpose which had been approved by them, and they could not derogate from their grant. They were clearly derogating from their grant by using the plaintiffs' wall in such a way that it became legally impossible to retain the windows in that wall, and, consequently, to use the room for the purposes for which it was designed. It was argued that the plaintiffs' architect had consented to this user. But the learned Judge held that in thus consenting the architect had gone beyond the scope of his authority. "He was employed simply to superintend the erection of the buildings." The plans showed no such timbers or stanchions built into the wall, and "he had no authority to allow the slightest deviation from the plans. An architect in the absence of special stipulations had no greater authority than any other person who was employed to superintend work." The moral seems to be that the law allows to architects considerably less latitude than it allows to other professional persons; and that, if this is the law, architects before allowing any deviation from plans must be careful to see that they have authority to make such deviations.

The Thorwaldsen Museum, which adjoins the royal castle in Copenhagen, is decorated on the exterior walls with figures in cement which have been painted. They represent the festivities with which the sculptor was received in the city, and the bringing of his works to the museum. There are, it is supposed, about 300 examples of Thorwaldsen's sculpture. The air of Copenhagen is not favourable to colour, and those works have become more dark than is desirable. Of late years attention has been given to the subject, and various proposals have been made about superseding the cement figures. Mosaic has been tried as a background, but the experiment was not successful. Fresco was also attempted, and it too has failed. Recently a professor of chemistry has been called in, and he proposes to remove the original colours and then to repaint the figures with others which will be more enduring. At present this last expedient appears to be in favour. The museum was built between sixty and seventy years ago, and is partly Egyptian, partly Etruscan, in style. The buildings are ranged around an open court, in which is the tomb of the sculptor. The interior is decorated in Pompeiian style, and the classical subjects of Thorwaldsen are therefore to be seen amidst suitable surroundings.

ILLUSTRATIONS.

VILLA OF THE BARON ARTHUR V. OSTERROTH, COBLENZ.

This illustration shows the view of the villa of the Baron Arthur von Osterroth in the Mainzerstrasse of Coblenz. It will be observed that the architect, Herr Willy Bock, has adopted a somewhat different type from those we have given, but one no less faithful to the principles of the old German builders. The house is detached, and each side presents a different appearance, that towards the street, as shown in the illustration, complying with the building regulations of the city. Sculpture has been largely introduced and is of a high class, imparting dignity to the house while recalling history and legend. The materials have also been selected with a view to colour which, although successful, cannot be suggested by the illustration. As seen from the garden the villa appears as a country house; from the street it is a town house, but of a character which is unique.

CHARING CROSS HOSPITAL, SHOWING TOWER.

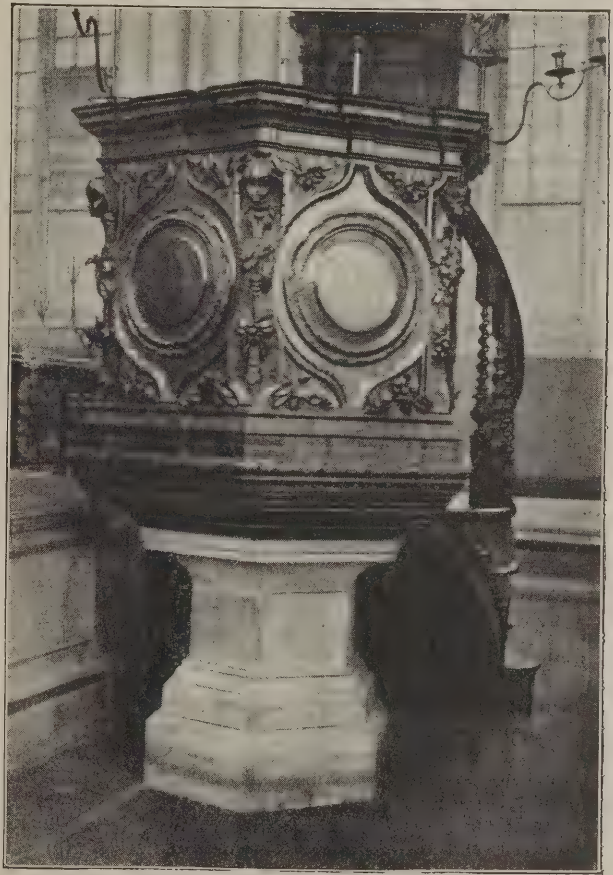
NEW OFFICES OF "THE SCOTSMAN," EDINBURGH.

TWO CITY CHURCHES.*

St. Andrew Undershaft.

THE present church of St. Andrew Undershaft was commenced in 1520 and completed in 1532. John Stow was born in 1525 and died in 1605; his "Survey of London," written in 1598, describes the church as still retaining the name of St. Andrew Undershaft: the historian of London just 300 years later can say precisely the same thing. John Stow must have had an intimate knowledge of the church. He lived a few yards from it, he was born five years after the rebuilding commenced, and was seven years old when it was completed; finally, he was buried within its walls on April 8, 1605. The dates mentioned occur within the reigns of Henry VIII., Edward VI., Mary, Elizabeth and James I.; under these sovereigns Stow lived. The church was built wholly in the reign of Henry VIII., at the period when English Gothic architecture had reached its zenith and was passing through its final stages, preparatory to the revival of Classic ideals in what we term Jacobean art. The church has not been altered since its erection, with the exception that the tower has been heightened, so that we see it just as it was in Stow's time, if we except the pews and a few of the monuments.

St. Andrew Undershaft.



St. Andrew Undershaft. Pulpit.

Let us take him for our guide as we endeavour to picture the immediate neighbourhood of this church. When twenty-four years old he was living near the well within Aldgate, and, referring to a farm belonging to the nuns of the abbey of St. Clare, the Minoresses, he says:—"At the which farm I myself in my youth have fetched many a half penny worth of milk, and never had less than three ale pints for a halfpenny in the summer, nor less than one ale quart for ahalfpenny in the winter, always hot from the kine, as the same was milked and strained. One Trolop, and afterwards Goodman, were the farmers there, and had thirty or forty kine to the pail. Goodman's son, being heir to his father's purchase, let out the ground first for grazing of horses, and then for garden plots, and lived like a gentleman thereby." So late as the beginning of the nineteenth century milk could be obtained from this farm, and the present existing names of Goodman's Yard, Goodman's Fields and Goodman's Stile and the "Gap" (in the hedge, probably) are a striking survival of this interesting piece of local history. Returning from Goodman's farm with his can of milk, our future historian would pass the abbey of St. Clare (already surrendered to the king ten years previously), the small parish church of the Trinity, St. Botolph's Church; then he would cross the bridge over the Hound's Ditch, through the Aldgate in the Roman wall into the ward of Aldgate. Passing along Aldgate Street he would see on his right the magnificent priory of Holy Trinity, also just dissolved by the king, and given by him to his favourite, Sir Thomas Audley, Knight and Lord Chancellor. In the cemetery of this great priory stood St. Katherine Christ Church, and, having already passed St. Michael, Aldgate, he would come to "the fair and beautiful parish church of St. Andrew the Apostle." He would not see the famous May-pole which had caused the church to be called St. Andrew-under-the-Shaft, for that had not been raised since 1517. The occasion which led to its disuse Stow gives somewhat in detail:—"Every year on May-day in the morning it was used that an high or long shaft, or May-pole, was set up there in the midst of the street before the south side of the said church; which shaft, when it was set on end and fixed in the ground, was higher than the church steeple." He goes on to quote Geoffrey Chaucer, whose works he edited in 1561, "As ye would beare the great shaft of Cornehill," and tells us that "Evil May-day" was the last occasion on which the shaft was raised. The alien question existed then, as now, and in the same neighbourhood, for "Evil May-day" was "so called of an insurrection made by apprentices and other young persons against aliens in the year 1517." The shaft was laid along over the doors, and under the pentises of one row of houses and alley gate, called Shaft Alley; it was hung on iron hooks until 1549, when, having been duly denounced at Paul's Cross as idolatrous by a scatter-brained curate of St. Katherine Cree, the people living in its vicinity, "after they had well dined to make themselves strong, gathered more help, and with great labour raising the shaft from the hooks, whereon it had rested two-and-thirty years, they sawed it in pieces, every man taking for his share so much as had lain over his door and stall, the length of his house, and they of the alley divided among them so much as had lain over their alley gate." This same "Evil May-day" is referred to in the "Chronicle of the Grey Friars of London," where we are told that "thys yere was yell May Day, that yong men and prentes of London rose in the nyght, and wolde have had James Mottas ane owte-landych mane and wolde have slayne him, but he hyde hym in hys gotters in hys howse." The upshot of the riot was that "at the last there were dyvers of them hongyd within the citte on gallos, as at Sent Martyn's gatte at Ludgate, at Algate, Bysshoppes gate, Doggate, Sent Mangnus, Ledynhall, in the Powltre, and at the stondert in Cheppe." So serious was the riot that those who were pardoned had to come with halters round their necks to the king sitting in Westminster Hall.

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* Read by Mr. Theophilus Pitt, F.C.S., at a meeting of the Upper Norwood Athenæum on Saturday, February 24.

The church is dedicated in the name of the apostle St. Andrew, who was martyred at Petra, it is said, upon a cross whose shape has been adopted as the symbol of the apostle, a cross *saltire.* There were two other dedications in this name in the City, St. Andrew by the Wardrobe and St. Andrew Hubbard; the latter church no longer exists. Stow records the names and merits of many of the most noteworthy of London citizens who had endowed churches, schools, almshouses, and rendered service to the poor. He mentions the name of Steven Gennings, or Stephen Jennings, Merchant Taylor and Mayor in 1509. Gennings founded a fair grammar school at Ulfrimhampton (Wolverhampton), left good lands, and also built a great part of his parish church of St. Andrew Undershaft. Stow further tells us that in the building of the church every man put to his helping hand, some with their purses, others with their bodies, and that Steven Gennings caused at his charges to be built the whole north side of the middle aisle both of the body and choir, as appeareth by his arms over every pillar graven, and also the north aisle, which he roofed with timber and ceiled; also the whole south side of the church was glazed, and the pews of the south chapel made of his costs, as appeareth on every window and upon the said pews. Gennings died in 1524, long before the work was finished, and was buried in the Greyfriars Church, of which the last remnant has just disappeared. Other men who assisted in the cost of building were John Kerkbie, Sheriff and Merchant Taylor, and Nicholas Levison, Mercer, the ancestor of the Leveson-Gowers, Dukes of Sutherland. Amongst those who were buried in the old church, as recorded by Stow, were Philip Malpas, sheriff, 1439; Sir Robert Dennie, knight, and his son Thomas, 1421; and Thomas Stokes, gentleman and grocer, in 1496. Of this old church nothing is known, except that it was built in 1362. Further work was done in the church in 1627 and 1704, new wainscotting and pews were added and the fabric was beautified, to use the term so frequently employed in this connection in the eighteenth century.

The monuments of the church are interesting, and the foremost is that of John Stow, erected to his memory by his widow. It bears the legend—

Aut. scribenda. Aut. legenda.
Agere, Scribere.
Memoria Sacrum,

and an inscription, also in Latin, setting forth in graceful language his claims upon our gratitude for his great historical and topographical labours. Those who were present at Stratford-on-Avon last year will remember the monument to William Shakespeare on the north wall of the chancel of Holy Trinity Church, and will see a marked similarity in this memorial of his contemporary Stow, the same position, the pen in the right hand. Sir Hugh Hammersley, Lord Mayor 1627, buried here in 1636, is commemorated by a monument supported by two weeping soldiers. His claims to the notice of City posterity are numerous. He was "colonel of this City [which probably explains the presence of lachrymose military], president of Christ's Hospital, president of the Artillery Garden, governor of the Company of Russia Merchants and of those of the Levant, free of the Company of Haberdashers and of Merchant Adventurers of Spain, East India, France and Virginia." Sir Christopher Clitherow has a tablet, also on the north wall; he was sheriff, M.P. for the City, lord mayor in 1635 and died in 1642. Boston manor-house, in the Boston Road, lying between Brentford and Hanwell, contains a fine portrait of Sir Christopher by Garrard. It is over the door of the antechamber to the State bedroom; there are also two portraits of his wife, Dame Mary—one by Zucchero, the other a replica. A most interesting account of Boston manor-house and the Clitherows may be read in the *Home Counties Magazine*, vol. v. The glass in the west window, which has portraits of Edward VI., Elizabeth, James I., Charles I. and Charles II., is understood to have been given by Sir Christopher Clitherow; but it was removed from the east window, where it was originally placed, in the restoration of 1875-6 under Sir A. W. Blomfield. Up to that time the west window had been blocked up and the east window is now entirely modern. Alice Byng, with ruff, kneeling at a prie-dieu, died in 1616. She was the daughter of Simon Burton, citizen and wax-chandler, whose brass plate is close by, and had three husbands, "all batchellors and stacioners." In the chancel is the monument of Sir Thomas Offley, Lord Mayor in 1556. He died in 1582, and Stow says that he bequeathed the one-half of all his goods to charitable actions, but the parish received little benefit thereby. A brass to Nicholas Levison and his wife Denys on the east wall of the north aisle, accompanied by the figures of ten daughters and eight sons, is of great interest.

Books which have been attached by chains are very rare in the neighbourhood of London. Great Yarmouth parish church has perhaps the best collection, and Waltham Abbey has an eye in one of the Norman piers to which a chained book was attached. St. Andrew Undershaft has seven old books, some with portions of chain attached. There is Sir Walter Raleigh's "History of the World," Erasmus's "Paraphrase of the Books of the New Testament," a book by Bishop Jewel and one by William Perkins, and three copies of Foxe's "Book of Martyrs." Hans Holbein is commemorated by a modern brass tablet in the south aisle. There is no record of his burial here, but he was probably living in the neighbourhood at the end of his life, as he is described as "nuper parochiæ sancti Andree Undershafte" in the probate of his will, dated November 29, 1643.

St. Katherine Cree.

It is somewhat difficult to say whether the earliest church on this site was older than the great Augustinian priory of Holy Trinity close by, but there is some ground for this view in Stow's statement that the priory was made into one parish of the Holy Trinity, to include the parishes of St. Mary Magdalen, St. Michael, St. Katherine and the Blessed Trinity, and that it was "built on a piece of ground in the parish of St. Katherine towards Aldgate." The priory of Holy Trinity, Aldgate, one of the most extensive foundations in London, was founded by Queen Matilda, wife of Henry I., as Stow says, "in the place where Siredus sometime began to erect a church in honour of the Cross and of St. Mary Magdalen, of which the Dean and Chapter of Waltham were wont to receive thirty shillings." The relation to Waltham is interesting, for the dedication of that church is in honour of the Holy Cross, and this was probably a cell served by the abbey of Waltham. The priory church of Holy Trinity was known as Christ's Church, and since there were other churches dedicated in honour of St. Katherine in the City and its outskirts, the church we are considering now was called St. Katherine Christ's Church, or Cree Church, because of its proximity to the more widely-known Christ Church, Aldgate. Strype gives the date of the early church as about the year 1300, but Mr. Philip Norman records its mention in the bull of Pope Innocent III., who died in 1216, and in a will dated 1349, so that as chapel or parish church its existence may go back to Norman times at least. When the priory of Holy Trinity was surrendered to Henry VIII. in Stow's time, Sir Thomas Audley, to whom it was given by the king, had no use for the church of the priory, so he offered it to the parishioners of St. Katherine in exchange for their own parish church, so that he might build secular property on the site of the latter. The people of St. Katherine's declined the offer, having doubts in their heads of "afterclaps," so they stuck to their own parish church and allowed Sir Thomas Audley to pull down the priory and build upon its site a residence for himself. He died in 1544; his daughter and heiress married the Duke of Norfolk, and the mansion was called the Duke's Place.

The present church of St. Katherine possesses interesting evidences of its predecessor on the site. John Stow says of the church which stood here in his day (the present church was built nearly thirty years after his death):—"This church seemeth to be very old, since the building whereof the high street hath been so often raised by pavements that now men are fain to descend into the said church by divers steps, seven in number." It will be remembered that other churches in the City have this feature—St. Helen, Bishopsgate, and St. Olave, Hart Street, are notable examples. An interesting portion of an early pillar, the capital being 3 feet above the floor level of the present church, is seen at the west end of the church; and other portions of the previous building may also be seen near the ground on the west and south walls. Our historian also records that "the steeple or bell-tower hath been lately built, to wit, about the year 1504; for Sir John Percivall, Merchant Taylor, then deceasing, gave money towards the building thereof." It is doubtless this tower of which we are able to see the lower portion now.

The church was built between 1628 and 1630, and was consecrated by Laud, then Bishop of London, on January 16, 1630-1. The ceremony was an elaborate one, in accordance with Laud's determination to assert the continuity of the Church and its independence of the alien hostile claims of both Rome and Geneva. The time was rapidly approaching when the doctrines of the latter school were reaching their period of triumph, and when Laud was put to trial under the military despotism of the Puritans, it was one of the charges against him that he had consecrated this church on the old lines. Like most of the later Gothic City churches, St. Katherine Cree has no structural chancel, and its general plan is similar to that of others built in the previous century. But here the resemblance ceases, and all the details are debased Italian, or Jacobean as it is called here. The arches are semicircular and the capitals are of the Corinthian order; the large circular east window may have been inserted with an intentional reference to the Catherine wheel, the symbol of the patron saint of the church. There is much beautiful woodwork in the church, a peculiar feature of London churches, and the organ was made by Father Smith. The glass case on the east wall contains a Prayer-book given for the use of the churchwardens by Martin Bond in 1630, and a Bible given by S. Cornick in 1693. The first stone of the church was laid by this Martin Bond, who was captain of the City train bands, and who is represented as seated outside his tent and surrounded by his fellow citizen soldiers in his monument at Great St. Helen's Church. The monument to Sir Nicholas Throckmorton, who died in 1570, was in the old church. He was Chief Butler of England, one of the chamberlains of the Exchequer and ambassador to France, and married the daughter of Sir Nicholas Carew, whose monument may be seen in the church of St. Botolph, Aldgate. Richard Spencer, Turkey merchant, 1667, is commemorated by a monument in this church.

ST. ANDREW UNDERSHAFT.

The following description of its internal architectural features from the pen of the late Mr. G. H. Birch, F.S.A., will be of interest:—"The piers or columns are not moulded, but are columns of the composite order, carrying semicircular arches, the soffites of which are coffered, with a circular flower in the centre of each coffer; the arches have well-moulded architraves, and above them runs a cornice, the lower mouldings of which mitre with the architraves. Above the cornice is a lofty and well-proportioned clerestory, the windows of which, and also those of the aisles, are peculiar; they are of three lights with cinque-foiled heads; the centre light in each case is higher, and a square-headed moulding breaks round them; the cills are splayed, and between each is a square pilaster with a boldly moulded cap and base springing from corbels of which not two are alike, and these corbels partly occupy the spandrels between the arches. From the caps of these pilasters spring the vaulting ribs; the vault itself is very flat in section, and in the centre of each compartment is a large boss or centre flower with the arms of one of the City companies, Goldsmiths, Fishmongers, Merchant Taylors, &c., in high relief, coloured and gilt. The vaulting of the aisles is quadripartite, with moulded wall, diagonal and ridge ribs. Springing from corbels only the vaulting of the two bays forming the chancel is much richer." The east window is wheel-shaped, the circle being enclosed in a square; it contains glass, some of which probably dates from 1628; other portions are the gift of Sir Samuel Stainer in the early eighteenth century—the giver was Lord Mayor in the first year of George I. A sundial on the external south wall of the church, dated 1706, has the motto "Non sine lumine."

There was a church, built in 1621, rebuilt in 1727 and demolished in 1874, known as St. James, Duke's Place, erected upon a portion of the site of the priory of Holy Trinity, the position being that of the chapter-house. An illustration of the south gateway of Duke's Place, in 1793, may be seen in *Home Counties Magazine*, vol. ii. There are two arches, the larger, very obtuse, for vehicles; and a smaller and more acute-angled arch through which foot passengers might pass. The dripstone of the latter is ornamented, and both have terminal bosses. The picture, together with two plans of the priory of Holy Trinity, Aldgate, illustrate a most interesting article by Mr. W. R. Lethaby. The original plans are in the possession of the Marquis of Salisbury at Hatfield, and were from surveys made by J. Symans about the year 1592, just before the dissolution of the priory. They show the enormous space covered by the buildings of the monastery, reaching from Sir Thomas Heneage's garden, on the other side of what is now Heneage Lane to the Aldgate, and bounded on either side by "London Wawle" and Aldgate Street, now merged in Leadenhall Street. The portion of London Wall which ran along Houndsditch is represented with bastions, probably such as the one at present existing in Cripplegate Churchyard. There was another in Camomile Street, during the demolition of which some exceptionally good Roman remains were found. These are now in the Guildhall Museum. Chaucer lived in the Aldgate at one period of his life, which doubtless was an interesting thing to John Stow, who edited his works in 1561. Another editor of Chaucer's poems was William Thynne, clerk of the kitchen to Henry VIII., whose acquaintance we made at Allhallows, Barking.

MONUMENT OF JOHN STOW.

THE DIFFERENCE IN ARCHITECTURAL STYLES.*

(*Concluded from last week.*)

WHILE we all know that the sixteenth century was the period of the momentous revolution, "whose chief characteristic was the transfer of the allegiance of progressive nations from clerical authority to civil," the Renaissance of the fifteenth century was all-pervading in literature and in the other arts as well as in architecture, and its first and strongest impulse was apparently the reaction from unguided liberty and license to the classic spirit of law and order, and the widespread desire, in the midst of the chaotic confusion and eager movement of the times, for a return to some form of artistic standards.

While Greece was too distant and her ruins too utterly broken or buried at that day, the great Roman remains were near enough and well preserved enough to become the Mecca for study and inspiration, and after the famous expeditions of the French into Italy at the latter end of the fifteenth century the Court returned deeply imbued with the new spirit; and henceforth the Classic art of Greece, as seen through the interpretation of Rome, and handled by the clever, artistic and intelligent skill of the Frenchman and the Italian, has been the guiding influence from the early days of the Renaissance to our own times. The spirit, not the mere letter, of Classic architecture was enthusiastically studied, and a careful, intelligent, artistic application made of it to new conditions, new climates, new customs, new resources, and still influenced by the existing practices and traditions of different localities. What modern Europe saw in the old Roman temple and amphitheatre and basilica and bath and triumphal arch it applied to the churches and villas and palaces and museums of its own day—Italy, France, Germany, and finally England, each with their own individual characteristics.

It has been said that, up to the time of the Renaissance, architecture, Greek, Roman or Gothic, was real and pure in its own style, in its direct purpose and method of construction, with the exception of the sham decoration of the Roman, and that of the Renaissance, like it, was not a system of architecture, but a scheme of decoration. True, perhaps, but so intelligently applied that we must admit it to be a much truer art than the Roman—a very fine art indeed. Its development was rapid, and at the end of two centuries it had reached its high-water mark, and again the tide turned. As in the case of the Gothic, its weakness and decadence came from the development into excess, without fixed motive and connection, of its own best inherent qualities as mere whim and excuse for meaningless ornamentation. On the one hand, the grandiose, monumental, artificial style of Louis XIV., the sham, imposing façades concealing interiors with which they had little connection; and on the other, the so-called Baroque or Jesuit, most conspicuously exemplified in Spanish work, of excessive, meaningless, vulgar ornamentation, losing sense of form and order.

In Italy the old Roman feeling never had lost its hold. The Gothic there had only a temporary, half-hearted sojourn in superficial forms rather than spirit, and Classic lines show themselves through the Mediæval work till the latter yields the ground entirely to the full advancing wave of the Renaissance. France, however, did not blindly yield to the new force, but rather captured it and became its master. So we find all through her borders the new Classic revival greatly modified by the still prevailing Mediæval spirit, and most intelligently and successfully applied, so that the great châteaux of that period are among the best specimens of good architecture the world knows, and models for study and inspiration for our own times.

While we may not here, in limited time, dwell on them, one must not overlook entirely those side issues, as it were, the more special styles of a narrow scope—the Moorish, the Indian and those of other Oriental nations—the results rather of more purely local, though very strong, influences. These are the double links, or pendants, in the long chain, from which no continuous direct line has proceeded, having no element in the features of their peculiar style that found natural growth elsewhere; their reproductions in other localities are only artificial and conscious imitations and transplantings, not genuine outputs of the soil. On these well-known styles, however, which we term the "Byzantine" and the "Romanesque," the remarkable results of a combination of Greek and Mediæval spirit, whose influence has been widespread, one might dwell with great interest, as they produced two of probably the greatest buildings of the modern world—the Sta Sophia of Constantinople and the St. Mark's of Venice.

In this gradual transition from style to style two interesting elements may be noted: one we may call that of "reminiscence," the other of "anticipation"; that is, the essential and structural features of a given style have a tendency to appear as the incidental or ornamental features of the style just preceding or succeeding it, superimposed upon different forms of construction. This, notably in that rather vague period of several centuries which we term the "Romanesque," which followed the Dark Ages and led on to the great Mediæval or Gothic period, when, even with the perfected structure of arch and buttress, the influence of classic Rome is still long felt in the forms of moulding and ornament, as a reminiscence; and, during the same period, broadly speaking, in the Byzantine work of the Orient, while the Roman structural methods of arch and vault still prevailed, the prominent features of the coming Gothic are creeping in as a mere matter of decorative form. And again, centuries later, the same phenomenon reappears (as we will see later) when the Renaissance placed upon its buildings, still Gothic in structural method, its modified Roman details, in anticipation of the return to Classic forms. While this is not an element of essential importance in the evolution of the great styles, it is an interesting step in the progress of events, and may be noted in one or two of the world's great buildings of the period.

All this is what has been happening up to our own times—say, into the eighteenth century. Since then has followed a repetition of the same forms, sometimes a reproduction of the one style or the other, sometimes as genuine constructive work, sometimes as mere sham, sometimes intelligently applied with knowledge and good taste, often showing only bad taste and ignorance, France keeping in the lead, more even as an academic teacher than in executed work, with all that is the best, while among inferior productions of other nationalities it would be invidious to make here any comparisons.

And so we come finally back to the old question, "What are we doing ourselves in America to-day?"

Someone has said that "American architecture consists of trying to make something look like something else that would not be desirable if genuine," and also that, "owing to the general impression that ugliness and prosperity go hand in hand, we must accept the heritage of ugliness as a consequence of commercial success."

If this were ever so, it is so no longer. "Business men now begin to see that a beautiful city means not only a pleasanter life, but better business." It is true that the prevailing spirit of our age is scientific and commercial (not necessarily in a bad sense), and that truths, even religious truths, are sought by scientific investigation rather than otherwise; and with this has come in the last half-century the almost overwhelming rush and complication of modern life and new developments in science, creating in our cities new demands such as the world has never known before. But our materials, stone and wood and bricks and mortar, are about the same; no new inherent qualities are discovered in them, for either construction or expression, which the Greek and the Roman and the Goth have not already found and fully developed and shown to us.

We are flooded, through all sources of information, with the knowledge of all that has been done by all the ages before us. We find "there is nothing new under the sun," and we cannot construct and design unconscious of the precedents and traditions of the centuries, even if we would; for, though men sometimes find it hard to remember, it is still harder to forget. But what we do know is this. We have seen and we know the good from the bad, the true from the false, the real from the sham. We want to do the best we can with the conditions in our own day and generation, and we are very unprejudiced and intelligent and clever in doing this, we Americans, perhaps—with France as our schoolmaster—solving the problems better than the other nations. As the one new factor in the work there is naturally suggested the tall, many-storeyed building of metal frame and construction, covered with a screen of some other material in architectural forms. This, although engineering rather than architecture, is as much a legitimate development of the times as was the Roman. The steel and iron skeleton itself has no suggestion of any architectural forms, and is therefore decently and attractively clothed with such as a frank outer garment, not necessarily without character and beauty, expression of purpose or mode of construction.

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* A paper read by Mr. J. B. Noel Wyatt, architect, before the Municipal Art Society of Baltimore, and published in the *Architects and Builders' Journal* (Baltimore).

These tell the same story in our time first told by the Egyptian pyramid—that the architectural work of all men is but "the unconscious expression of their eras. Men are the instruments not the authors of styles." And if, then, finally comes the question, "What part does the personality of the individual, the architect, actually play in the work of our designing?" it is simply this:—The facts of structure and form and "style" are the alphabet, the grammar, the rhetoric, the "technique" of the subject, capable of use with infinite variety, while still in obedience to the general laws that have become formulated through the long processes we have been hastily reviewing. And, as in literature or music, sculpture or painting, it is assumed that the educated workman is at least familiar with and master of this "technique;" there is a vast deal of difference in the results between the merely "not bad" because simply "correct" and the truly "admirable" because, while successfully filling the practical requirements of its destined purpose, it becomes also, through the ability and talent of its author in using his knowledge with both freedom and restraint, a thing of beauty and of lasting satisfaction.

My aim has been to show that, in the evolution and development of architecture, those changes only are of lasting importance when permanent, essential structural results are attained, having in them something vital, something affecting the very life of what we term a style. We may mark, from a point of view not altogether imaginative, conditions existing in the life of architecture somewhat analogous to those of a race or a nation, or even of an individual. In each, life may go on for a long period, year by year, with little change either in outward surroundings or inward conditions of character, of thought and of feeling, and this, too, in spite, perhaps, of occasional special episodes that may startle and interrupt for the moment, but allow us to drop back again into the old lines. And then there comes something radical from without or from within, perhaps rather suddenly, perhaps so gradually that we hardly note the critical moment, but it has come, it has touched an essential principle, a vital spot; there is a change from which we do not revert; it may be for the better, it may be for the worse. Subsequent things may be stronger and brighter; they may be weaker and darker, but they are different. We may partly recall the past as a reminiscence, but the real, the vital new principle underlies the present. "And life is never the same again." This is true for man himself and it is true for his architecture.

And if we finally ask what, then, is the real meaning of this thing "style" in architecture, I think we can say it is that same thing which we find in man himself, whether it be for good or for evil—it is character.

THE ROKEBY VENUS.

THE following interesting article on the palette used in painting the Rokeby Venus is taken from an article in the *Scotsman* by a correspondent, "A. P. L.":—

The Rokeby Venus shows a considerable alteration in the materials and vehicles used for painting since the days of Giotto and the manuscript of Cenini Cenino, which gives us the most authoritative account of the methods of painting at the beginning of the fifteenth century. Then the universal medium was egg—either the white or the yolk—sometimes mixed with the juice of the fig tree, which contains a little caoutchouc, and the paintings were done on panels of wood upon which strips of old linen had been glued, and the surface laid over with a gesso, prepared partly from whitening and partly from glue. This surface again was very often gilded before the painting was placed upon it. Although egg was the main medium used, the properties of drying oils and varnishes were not unknown, and have been described, for instance, in the manuscripts of the monk Theophilus in the twelfth century, and instructions are given by Cenini Cenino for the varnishing of the tempera picture when finished. If these early pictures were varnished, it is evident from their appearance now that this varnish has long ago perished, leaving exposed the dull tempera painting. The somewhat limited and stiff painting, although extremely good of its kind, which is possible with this medium, is familiar to all of us. We see the work in this medium brought to its highest perfection in the paintings of the early masters.

When Cenini Cenino was writing his treatise on tempera painting Van Eyck was painting his pictures, and to him has been ascribed the honour of the invention of oil-painting. A careful examination, however, of Van Eyck's pictures throws considerable doubt on the accuracy of this statement. There is one well-known picture of his in the National Gallery, with husband and wife standing side by side, and the lady has on a dress of a vivid and beautiful green. Now if we search through the pigments of that time, as described in the manuscripts of the monks, we find only one green mentioned which could have produced this result, and that is verdigris. This is a pigment which rapidly blackens when mixed with oil, but if dissolved in the balsam of a pine, such as Venice turpentine, it forms a beautiful and transparent green, which is quite permanent when acted on by air, moisture or injurious gases. That this secret was known at a later date is shown by the records of De Mayerne—a physician at the court of Charles I.—and it seems much more probable, therefore, that Van Eyck, improving slightly on the methods of the tempera painters, was not satisfied merely to varnish the completed picture with some transparent spirit or oil varnish, but, having done his solid painting in tempera, used glazes or translucent lakes and transparent verdigris, prepared in a varnish probably consisting of pine balsam with a little oil and wax, and so advanced one step further towards the use of a transparent medium throughout the picture. A medium of this kind is somewhat stiff and difficult to work with, but it lends itself quite well to the minute highly-finished work which we associate with Van Eyck.

Once the possibility of using a transparent medium with the pigments was discovered the gradual passing from tempera pictures, protected by varnish, to pictures in which the solid painting was in tempera and the glazings in varnishes, and from that to the use of a drying oil, in which all the pigments were ground, is not a difficult process of evolution. But in gaining the advantages of a new medium which lent itself to new effects and to the free perfection of brushwork artists were introducing new dangers, if we regard their work from the standpoint of durability. It is questionable whether any drying oil is as durable as the albumen of the egg medium, or the pine balsams which were used to protect fugitive pigments. There can be no doubt that oil is permeable to air, moisture and injurious gases, and that consequently its introduction means at once a limit to the palette, and the rejection of many pigments that can be otherwise safely used.

It is impossible, looking at the Rokeby Velasquez, to doubt for a moment that the medium used in painting has been oil. Whether it was linseed oil or nut oil is an open question, though as the oil from walnuts was a favourite medium with Italian painters, it is very likely that Velasquez would make use of this also. Of course, a little varnish may have been introduced into the oil without hindering its facility of working under the brush, but the amount would be small, and while it would no doubt tend to increase the durability of the surface, it would not seriously affect the question of the durability of the pigments that were used. Looking, however, at the Rokeby Venus, there seems to be no reason to suppose that he used any pigments which we do not know from modern experience to be durable, with the possible exception of lake. A lake, it may be mentioned, is a pigment formed by absorbing colouring matter from a solution by a translucent alumina base.

The painting of the flesh does not necessarily involve the use of anything but white lead and the earth colours, while the blue of the ribbon round the Cupid may very well be real ultramarine prepared from the most precious of all the pigments used by the old masters, and forming a pure and absolutely permanent blue. It is, however, also possible that the blue may be cobalt, as Palomino, who wrote in 1715, includes this among the pigments known at the time of Velasquez, although it was certainly not known to the earlier painters. This, however, would be quite as permanent as ultramarine. The white is no doubt white lead; the black may be a black prepared by the charring of bones, or the fine blue-black obtained by the charring of peach stones, or the little shoots of the vine. The deep piece of green which is seen in the drapery just above the waist of the Venus may very possibly be terre verte. This is a natural earth which originally came from Verona. It is found in the ancient Roman wall-paintings, and was largely used by the early artists of Italy. It is still to be found on the palette of the artist, but is no longer to be obtained of as fine quality, and is very often displaced by substitutes and imitations. It is, of course, also possible that the green is produced by a mixture of a blue and a yellow, but there seems no reason why we should assume this.

There only remain for consideration the red drapery behind the figure and the purple-coloured ribbon over the mirror. Here it is evident that a lake has been used, a lake which has probably been glazed over a brilliant red, such as vermilion. If we study the recipes which have been left by the monks, we find several substances mentioned from which lakes can be prepared, and on repeating the recipes we find these lakes to be of somewhat dull and bluish tint, resembling purple lake more nearly than crimson lake. Among these is a dye wood known as verzino—called Bacam by the Arabs—and mentioned in the Book of Roots of Rabbi David Kimchi. The best qualities of this wood, according to Marco Polo, grew in Ceylon, and it was afterwards discovered in and imported from South America. There are similar dye woods imported from the East, all of which yield lakes of the description given. All these dye woods, however, give fugitive lakes. Another substance used for dyeing and also for lake making was kermes, a small insect of the same genus as the cochineal insect, which is found on the prickly oak round the coasts of the Mediterranean. This yields a fairly permanent dye, and can be traced throughout the Middle Ages in the south of Europe. It is mentioned in a commercial agreement between Bologna and Ferrara in 1193, and Florence and Venice were famous for the stuffs dyed with it in the fifteenth century. The Italian name for the dye was "grana," and from that comes the English phrase "to dye in grain," and Shakespeare has given his testimony to the durability of the dye when he makes Olivia say of her complexion, "'Tis in grain, sir; 'twill endure wind and weather."

The late William Morris always used kermes for dyeing his tapestries, but if we prepare a lake from kermes we do not find that it is at all permanent when exposed to the light, although it is more permanent than those obtained from dye woods. Kermes was replaced by cochineal as a dye after the conquest of Mexico by Cortez. It was well known as a dye stuft in 1549, and a recipe exists in a Padua MS.—probably of the middle of the seventeenth century—by which either the one or the other may be used in the preparation of a lake. It seems, therefore, possible that the lake used by Velasquez was either prepared from kermes or from cochineal, and, therefore, that it corresponded to the crimson lake of to-day. The method of obtaining the rich red robes which we see so often in the paintings of the old masters, and of which there is a fine example in the curtain in the corner of the Rokeby Venus, was to paint solid with a bright red, such as vermilion, and then to glaze over it with one of these purple lakes. If we prepare one of these old lakes and paint it over vermilion in this way, and then compare it with some of these deep rich reds of the robes, we find that these robes have evidently faded considerably and become very much browner, and therefore probably more beautiful in tone. It is only after exposure to light outside a window for some months that we can produce a colour which at all matches the deep rich red we are accustomed to. It is probable, therefore, that the red curtain has faded considerably and become richer and browner in tone, the fading of the lake allowing the ground colour to show up more clearly, and the piece of painting in pure lake on the ribbon is probably also faded to a certain extent.

On the whole, however, it must be admitted that the colour of the ribbon over the mirror is in a fine state of preservation, and this seems to show that the lake used was probably more permanent than that obtained from kermes or cochineal.

There is another possibility, and that is that the lake was really a preparation of madder. Madder was known as a dye from very early times, and the process of preparing a lake from it is not very difficult, and in those days did not involve any more knowledge of chemistry than was necessary for the dyers of the time; but recipes for madder lake are conspicuous by their absence in the early manuscripts, and the first recipe of which there seems to be any record is given by Neri in the "Arte Vetraria" in 1612. This, however, makes it possible that madder lake was used by Velasquez. It may be objected that it obviously differs very much from madder lake as we know it to-day, but it is very similar to the madder lakes which would be obtained by alum containing traces of iron, and, consequently, as pure alum was not known then, this objection is not a serious one.

We find, then, on examination of the Velasquez that the palette used in painting it was evidently a simple one, and that from our knowledge to-day of the various pigments, there is only one of doubtful durability which need have been used to paint the picture as we see it, and that is the lake. If this lake was really prepared from madder there is no reason why it should fade, but, if prepared from cochineal, its state of preservation is certainly remarkable, and does not seem to agree with the behaviour of cochineal lakes as used by the later painters. It must be remembered, however, that the glazing of the lake over the brilliant red-like vermilion produces a combined colour effect which, as has been shown by experiments, resists the action of time remarkably well, simply getting richer and browner in tone from the fading of the lake and the glowing through of the vermilion. Vermilion itself, when not exposed to direct sunlight, is an absolutely permanent pigment, and when protected by a lake glazed on the top is still more certain to remain without change. The moral apparently to be drawn by modern artists from the Rokeby Velasquez is that if care is taken to use a palette which is limited, and which does not contain fugitive pigments, there is no reason why a medium such as oil cannot be safely used.

SUSSEX ARCHÆOLOGICAL SOCIETY.

The annual report of the Sussex Archæological Society says there are at present 706 members, the number elected during last year being thirty-three. The sub-committee appointed to negotiate for the purchase of a site for the new museum and library report that some of the difficulties attendant on the Gun Garden site have been removed by enfranchisement, and that the services of Messrs. Ernest Rüntz & Ford have been acquired as architects. Since the plans and elevations prepared by them are now before the landlords for approval, it is hoped that it will not be long before the committee can begin building. Major H. P. Molineux, Mr. G. W. E. Loder and Mr. H. H. Pownall have kindly consented to act as trustees for the Society in the building lease which the landlords have proposed to grant. The Council regret that, owing to ill-health and his removal from the county, Mr. H. Michell Whitley felt compelled to resign the office of hon. secretary. Mr. W. E. Nicholson has been appointed in his place. Mr. C. G. Turner has also resigned the office of clerk and Mr. W. W. Davey has been appointed to succeed him. During the eight years in which he held the office the Society was much indebted to Mr. Michell Whitley for the management of its affairs, the editing of the "Collections" and the arrangement of meetings, all of which he effected with an industry and tact which contributed to the welfare and progress of the Society.

Mr. W. H. St. John Hope reports in reference to Lewes Priory that, through the kindness of Mr. Kenward, he has been permitted to make excavations in his garden for the purpose of finding any remains of the choir and transept of the priory church. Strong foundations are found to exist in many places, but no definite lines of masonry, and a portion of the tiled floor of the south transept was the only important point disclosed. By the like kindness of Mr. F. G. Courthope, Mr. St. John Hope was allowed to sink a number of holes in his garden, with the result that he was able to find the rubble core of the western end of the priory church, and also of the circular building which enclosed the conduit and lavatory above the so-called "lantern." Mr. St. John Hope further reports that he has elsewhere lighted upon the original letters in Italian of Giovanni Portinari to Cromwell, describing the destruction of the priory church. They seem to throw a rather different light upon the plan of the church from that afforded by what can now be proved to be Richard Moryson's somewhat inaccurate translation.

The Council regret that the delivery of vol. xlviii. of the Society's "Collections" was delayed by the untimely death of the Rev. J. L. Booker, vicar of Elmbridge, while his corrections to the paper on the Culpeppers were being made. His death is a real loss to Sussex archæology. While assistant curate of Ardingly he transcribed and annotated the registers of that parish and of Balcombe, and he formed a large collection of notes on the old families of the county, the result of researches in the Record Office, the British Museum and elsewhere, which he was always eady to place at the disposal of any member of the Society. he Council wishes to express their sense of the obligaons they are under to the Rev. W. Hudson for accepting e onerous post of sole editor and for discharging its duties ith such care and ability.

During the year the Roman pavement at Bignor has een repaired, and the tesseræ fixed at the cost and under e supervision of the Society of Antiquaries, of London, nd a probably unique wall-painting has been discovered a house known as the Old Flushing Inn, Rye. The ociety has made a grant towards the copying of this wallainting, which will be reproduced in a forthcoming olume. The Council regret to have to announce the eaths of (among others) the Rev. J. L. Booker, elected n 1902; Lieutenant-Colonel Wisden, elected in 1872; Mr. S. Cunliffe, elected in 1886; Miss H. A. Margesson, lected in 1876; the Rev. H. Mitchell, vicar of Bosham, one f the oldest members, who was elected in 1858; Mr. John Varren, LL.B., elected in 1871; and Mr. J. A. Luttmann ohnson, elected in 1877. The number of visitors paying or admission to the castle during the year was 4,551.

EUSTON ROAD.

APPEALS by the Worshipful Company of Skinners (as governors of Tonbridge School), the Metropolitan Railway Company and Mr. W. F. Howard Flanders against he certificate of the superintending architect of metroolitan buildings defining the general line of buildings on he south-east side of Euston Road between Liverpool Street and Duke Street, were heard on Friday by the ribunal of Appeal. Counsel on behalf of the Skinners' ompany and Mr. Flanders said the general line of buildngs which had been fixed by the superintending architect revented any advantageous development of the property, he leases of most of which were just about to fall in. It lso prevented any advantage which the public might have cquired by the widening of such an important thoroughfare. he certificate of the superintending architect could not be ustified because one-storey and two-storey buildings proected over the line. Unless the County Council could show hat these buildings were erected without consent or under onditions, then they must be taken into account. Mr. ampbell Jones, surveyor to the Skinners' Company, said he Skinners' Company had offered to surrender from 5 feet to 30 feet of the gardens in front of the existing ouses to widen the road if they could build over the remainder. For the railway company, it was said that if the uperintending architect's line was to be upheld, that comany's property would be seriously affected, for the proosed line would actually go behind a great deal of such roperty. Mr. Russell, K.C., for the County Council, said he one-storey houses were erected on condition that they hould be in no way altered or raised without the consent f the Metropolitan Board of Works; while, with regard to he two-storey buildings mentioned, the appellants had put no vidence in to show how they came to be erected. Mr. Avory aid that if the tribunal excluded the buildings erected on onditions from their consideration, he should ask them to tate a case for the High Court. The tribunal decided to efine the general line of building only between Chesterfield Street and Mapleton Place, and for this purpose adhered to he line as laid down by the superintending architect.

TRANSVAAL INSTITUTE OF ARCHITECTS.

AT a late ordinary monthly meeting of the Transvaal Institute of Architects, the president, Mr. J. Waterson, ccupied the chair. Amongst the members present were Messrs. G. A. H. Dickson (past president), H. Seton Morris, S. H. Veale, G. Granger Fleming, A. E. Till, E. W. Sloper, A. Phipps Coles, A. M. Kennedy, A. Forrest (secretary) and several others.

The Chairman, on behalf of the Institute, welcomed Mr. Dickson, their past president, who had recently returned rom a trip to Europe. They had also to congratulate Mr. Dickson on his recent election as a Fellow of the Institute of British Architects.

Applications for membership were submitted from the Council, and Mr. Crawford Stuart, architect, Johannesburg, was elected a member.

Mr. F. Saunders, Assoc.Inst.E.E., read an interesting aper on "Electrical Installations," dealing with the lighting of large and small buildings, such as they had occasion to erect under conditions similar to those met with in Johannesburg and Pretoria, paying particular attention to the precautions which require to be taken against the use of inferior materials and bad workmanship, the requirements of the various municipalities and fire offices, and the reasons which had compelled the insurance companies to insist on their present high standard of work. Other points referred to by Mr. Saunders were the decorative uses of electrical fittings, shop and window lighting, comparison of various fittings and systems of wiring, and the faults generally met with in electric wiring. The paper was illustrated throughout by diagrams and a large collection of appliances and materials, the various lamps referred to being shown in use.

The Chairman, in proposing a vote of thanks to Mr. Saunders, said the Institute was greatly indebted to him for the paper read that evening, in which he had given them the benefit of his experience. At their next meeting members of the Institute would have an opportunity of discussing the various points raised by Mr. Saunders.

In replying to the vote of thanks, Mr. Saunders said he had endeavoured to keep his paper within reasonable limits, and no doubt much that would have been of interest had been omitted. He would have pleasure in being present at their discussion on his paper. He desired to thank the various firms who had kindly given him the use of several of the fittings exhibited, and also to his assistants who had superintended their installation.

Correspondence

Standard for Portland Cement.

Sir,—We should be obliged if you would insert in your next issue the enclosed copy of letter to the secretary of the British Standard Committee; a copy of same has been sent to several makers of Portland cement from other raw materials than chalk and clay, but there are no doubt other firms interested in a revision of the present specification, and also many engineers whom we have been unable to communicate with. By your kindness in inserting these letters those interested will, if they care to apply to us, receive full information as to the proposed meeting.—Yours faithfully, Chas. Nelson & Co., Ltd.

March 13, 1906.

[Copy.]

L. S. Robertson, Esq., secretary to the British Standard Engineering Committee, 28 Victoria Street, Westminster, S.W.

"*British Standard Specification for Portland Cement.*"

Re above dated December 1904.

Sir,—On inquiry in the summer of 1905 we were informed by H. H. Humphreys, Esq. (one of your committee), that the standard as then issued was not in its final form and was open to revision. As time went on we found the standard was still issued and used without modification; at the present time we daily find more and more engineers and architects asking for cement to that standard, consequently we now feel it necessary to ask your committee why only cement makers who manufacture from chalk and clay, and those all practically situated on Thames and Medway, are represented on the committee, while makers of Portland cement from other raw material such as the lower lias formation are neither represented nor have been in any way consulted? There are some half-million tons of cement manufactured yearly in the United Kingdom from other raw material than chalk and clay; 4,000 to 5,000 tons per week are manufactured from the lower lias formation. Portland cement made in the Midlands from lias rock is at least equal in strength and durability to the very best brands of Thames or Medway cement manufactured from chalk and clay. Cement has been made from lias rock for more than sixty years.

Clause No. 1 in your specification. This seems to us to be simply drawn up to cover cement manufactured from chalk and clay which is used for the making of Portland cement on the Thames and Medway, viz. the addition of 2 per cent. of calcium sulphate or water to retard the quick setting. In cement made from the lower lias this is unnecessary, as such cement is of a slow-setting nature, and although it is harder than chalk cement at 30 to 33 hours, it is even slower, and consequently less wasteful at 2 to 4 hours than chalk cements even after gypsum is added.

Clauses 2 to 5 we agree with.

Clause 6, as to the proportion of lime to silica and alumina is reasonable; we can comply with the remainder of the clause, but at the same time we would ask what authority or what proof you have that it is detrimental to cement that magnesia shall not exceed 3 per cent. or sulphuric anhydride 2.5 per cent.? Mr. Bertram Blount, one of your committee, will admit that it is well known that in cement manufactured from the lower lias formation both magnesia and sulphuric anhydride are present in larger quantities than in chalk cements; at the same time he will tell you that he has found that cement made from the lower lias carries a greater tensile strain than cement made from chalk and clay. Also in the American standard specification the magnesia is limited to 4 per cent.

Clauses 7, 8 and 9 we can agree to, but for your information our seven-day tensile strain runs from 600 to 700 lbs.

Clause 10. We manufacture in the ordinary way a slow-setting cement to order; we make a quick-setting cement, but it would come within your strain of 400 lbs.

Clause 11. Le Chatelier test. We are of opinion that this is not a satisfactory or definite test; we assume you call it an "accelerated test," but from experience we find it is not conclusive either from a chemical or mechanical point. In fact, to comply with this test we are of opinion that it is necessary to keep down the tensile strain, which is to produce a weaker and less economical cement, which means less lime to silica and alumina and calcining at a lower temperature, or by a modification of the above and finer grinding. Neither the American nor German standard specifications adopt the Le Chatelier test.

The many different factories that manufacture Portland cement from other material than that common to the Thames and Medway feel very strongly that your committee is not a representative one of manufacturers, users and experts of Portland cement in Great Britain; consequently, we ask on their behalf, Will you appoint an early meeting to consider a revision of the standard specification you have produced, at which some representatives of those manufacturers might attend who think the standard specification can be amended and improved, otherwise we feel that an all-round British standard must be drawn up and circulated based on Portland cement manufactured from the different raw materials, instead of, as you have at present, practically the one process and the one class of cement as made by Associated Portland Cement Manufacturers (1900), Limited?

A meeting is to be held in London in the latter end of this month comprising the principal firms who manufacture Portland cement from other material than chalk and clay, therefore it would be a considerable guide to the decision of the meeting if you would write us a letter expressing most fully your committee's feelings on the representations we have made.—Yours faithfully,

Chas. Nelson & Co., Ltd.

Assumption of the Letters "F.S.A."

Sir,—I have seen the letter appearing in your issue of the 9th inst., which Mr. St. John Hope seems to think is a justification of his previous letter, in which he suggested that I had assumed the letters "F.S.A.," and now that I have pointed out to him that I am a Fellow of the Society of Antiquaries of Scotland, he states that in that case I should use the letters "F.S.A. Scot.," and that the letters "F.S.A." without such addition are "restricted in England to Fellows of the Society of Antiquaries of London." I certainly do not know why the London Society should have this option. However, be that as it may, your correspondent says that it is "by universal custom," and at the same time that "it is restricted in England." Which does he mean? I was not hitherto aware that England constituted the whole universe, and as *The Architect* is circulated in Scotland, Ireland, Wales and the Colonies as well as England, it seems to me that a contributor to that or other such journal, being a Fellow of the Society of Antiquaries of Scotland, has an equal right to sign his work with the letters "F.S.A." as would a Fellow of the Society of Antiquaries of London, and which, by the way, is usual.

I am extremely sorry to have been drawn into this discussion, as it seems to me a great pity for such to arise, as the objects of the societies are identical, viz. the study and advancement of antiquity and architecture; but your correspondent's statements left me no option but to justify myself and the position which I have taken up in th matter, and having, as I trust, done so, it is not m intention to continue this correspondence further.

Thanking you for your courtesy, and apologising for th length of this letter,—I am, yours faithfully,

March 12, 1906. H. Steward Watling.

GENERAL.

The Competition for the Central Library, Hackney, gav occasion for the production of 152 sets of designs. M J. W. Simpson acted as assessor. On his award the firs place was obtained by Mr. Henry A. Crouch, 12 Gray's In Square, W.C.; the second by Messrs. H. C. Trimnell & W. R. Davison, 4 Adam Street, Adelphi; and the third b Messrs. Crouch & Butler and R. Savage, 39 Newhall Stree Birmingham.

At the Last Council Meeting of the International Societ of Sculptors, Painter and Gravers the following wer elected as Associates:—S. Nicholson Babb, Paul W Bartlett, W. L. Bruckman, A. S. Hartrick, Raven Hill, S Charles Holroyd, Gaston Latouche, Louis Legrand, Bertran Mackennel, A. D. Peppercorn, R. F. Wells and I. Zuloag Mr. Timothy Cole was elected an hon. member of th Society.

The Royal Society of British Artists have elected th following members:—Arthur Ellis, W. E. Riley (architec to the London County Council), Geoffrey Strahan, Fran Swinstead, P. T. Gilchrist and Miss Dorothea Sharp.

Mrs. Arthur Melville, widow of the Scottish artist, ha presented to the Victoria and Albert Museum, Sout Kensington, "The Little Bull Fight," or "Bravo, Toro! which was shown at the exhibition of the Royal Society o Painters in Water-Colours in 1903.

The Designs prepared by Mr. Horace T. Bonner, o 13 and 14 King Street, Cheapside, have been accepted i competition by the Deptford Borough Council for the proposed coroner's court, mortuary and disinfecting establishment to be erected in Watson Street, New Cross Road.

St. William's College, the building at the east end o York Minster, has been purchased by the Convocation an House of Laymen of the Northern Province. It is muc dilapidated, but the building has passed into the hands o Convocation on the express condition that it is to b thoroughly restored. It is intended to convert it into Church house. St. William's College was founded in 145 as a college for priests holding chantries in the Metropolitical Church.

The Third Annual Smoking Concert of the T-Squar Club will take place in the International Hall, Café Monic Piccadilly, W., on Tuesday next, the 20th inst., at eigh o'clock precisely. The chair will be taken by the president Sir Aston Webb, and with a good programme a pleasan evening is thereby assured.

The Water Committee of the Sheffield Corporation hav accepted the offer of Mr. Edward Holmes, president of th Sheffield Society of Architects and Surveyors, to offer premium for competition by members of the Society fo plans and suggestions for the development of the Riveli Valley estate.

The Royal Scottish Academy last week agreed tha three new Associates—a painter, a sculptor and an architect—should be elected at the statutory meeting to be hel for this purpose on the 21st inst. The resolution, however is subject to confirmation at the next meeting.

Mr. T. Werner Laurie has in preparation vol. iii. o "The Cathedrals of England and Wales," by T. Franci Bumpus, in which the chapters on Lichfield, Gloucester Rochester, St. Albans and St. David's will form specia features. Mr. Laurie has also in the Press Mr. Bumpus' "Cathedrals and Churches of the Rhine and North Germany, and promises us "London Churches, Ancient and Modern, from the same pen.

Dr. T. G. Pinches will deliver two public lectures o "The Assyro-Babylonian Monuments in the Britis Museum" on the 22nd and 29th inst., in the botanica theatre of University College, London.

The Excursions of the London Geological Field Class conducted by Professor H. Seeley, F.R.S., will commence this year on April 28. There will be ten. The fee is one guinea, which may be paid to Mr. J. W. Jarvis, St. Mark's College, Chelsea. This will be the twenty-first session.

Mr. A. Hunter Crawford, architect, Edinburgh, read paper on Monday before the Ordained Surveyors Students Society dealing with "Domestic Hot-water Supply."

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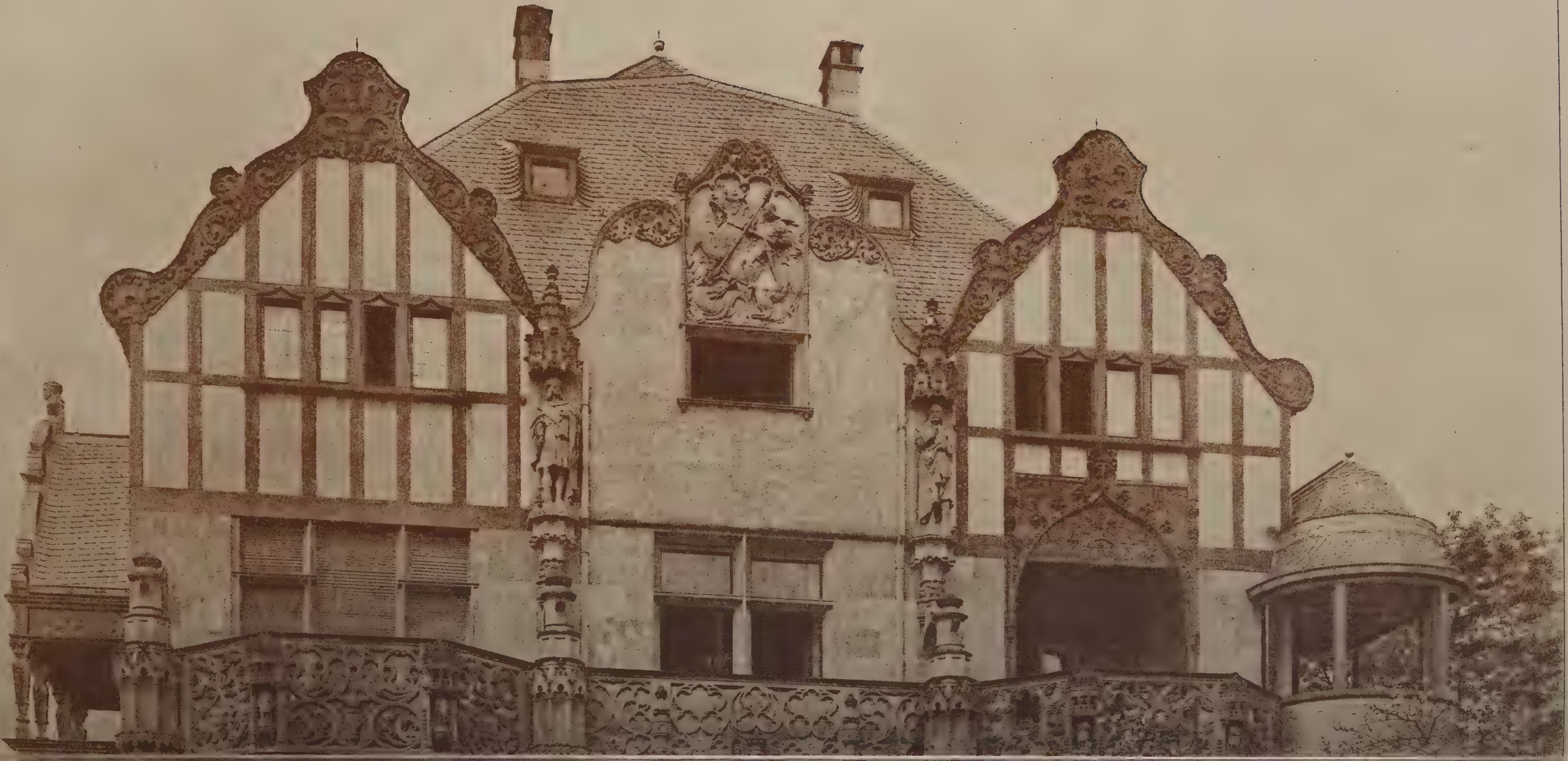

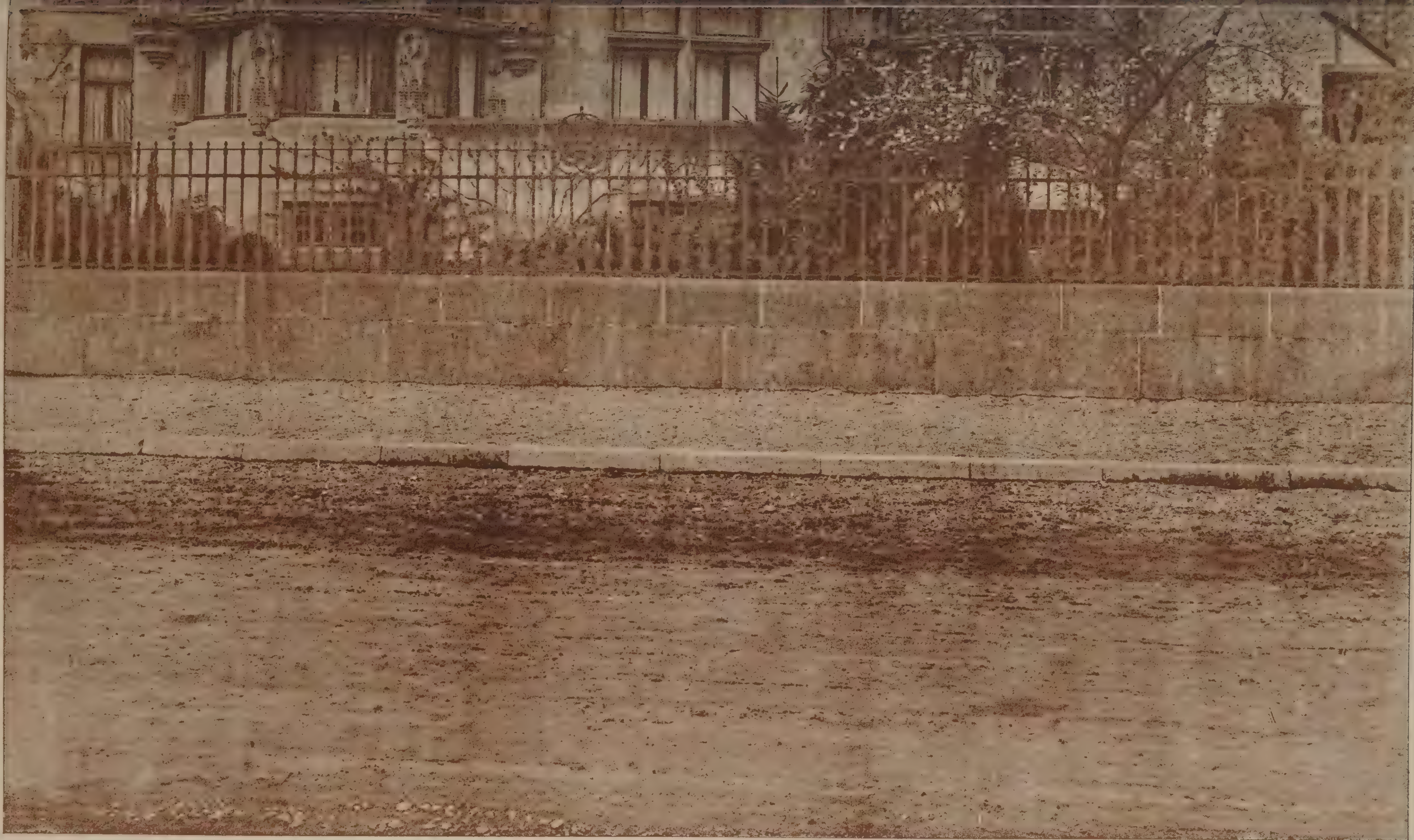

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Villa of the Baron Arthur v. Osterroth, Coblenz.

WILLY BOCK, Architect.

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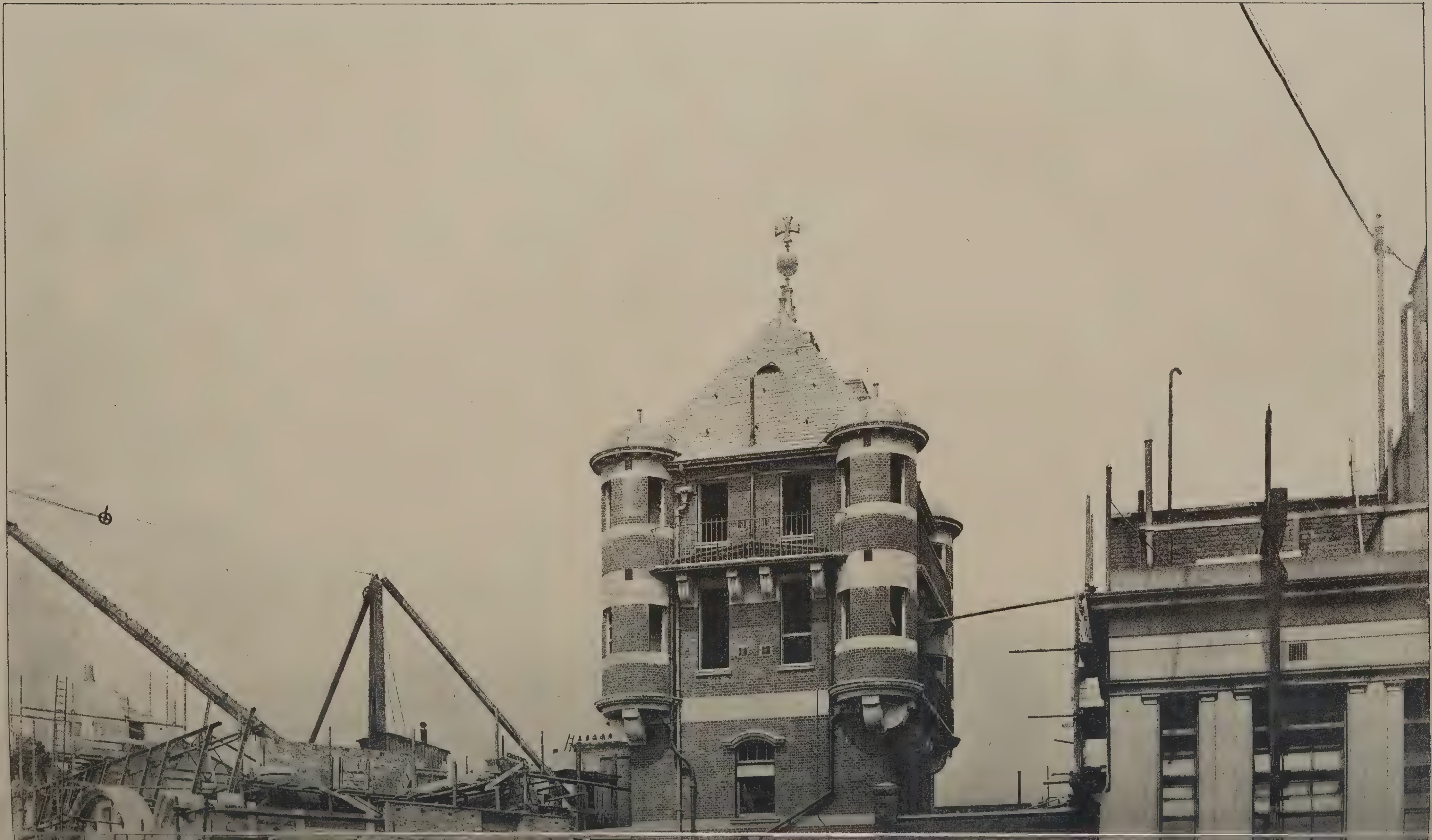

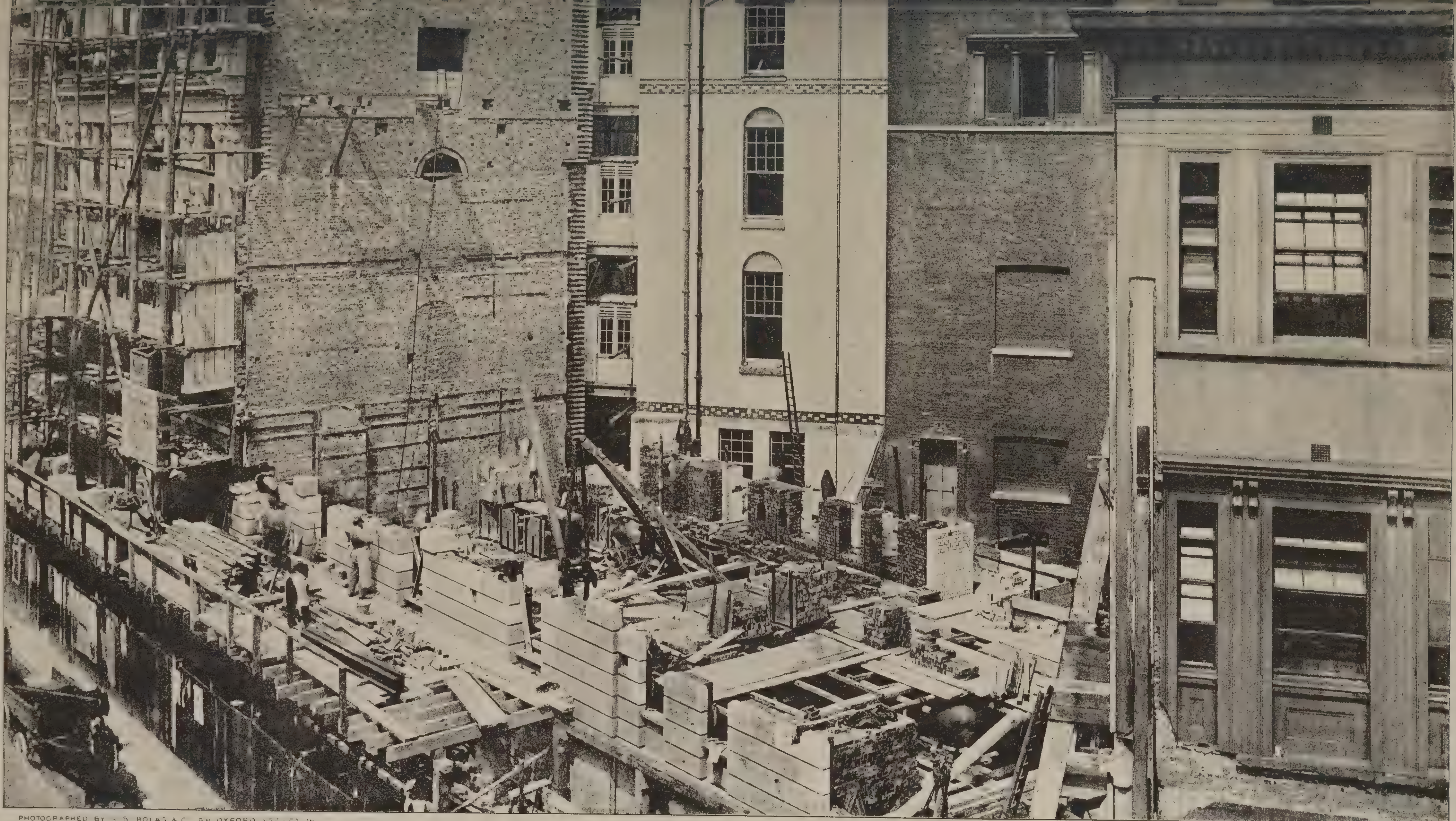

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CHARING CROSS HOSPITAL, SHOWING TOWER.

A. SAXON SNELL, F.R.I.B.A., Architect.

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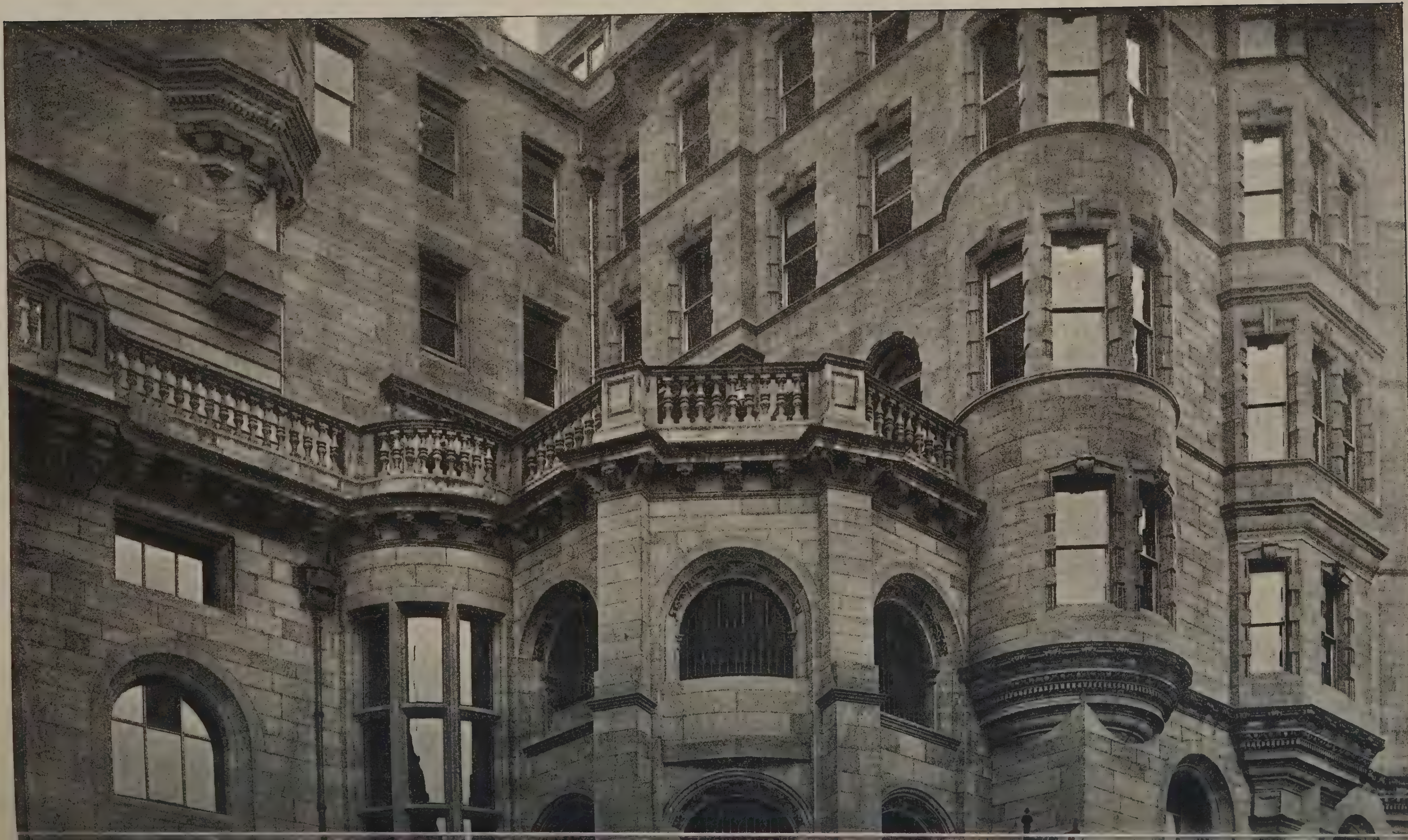

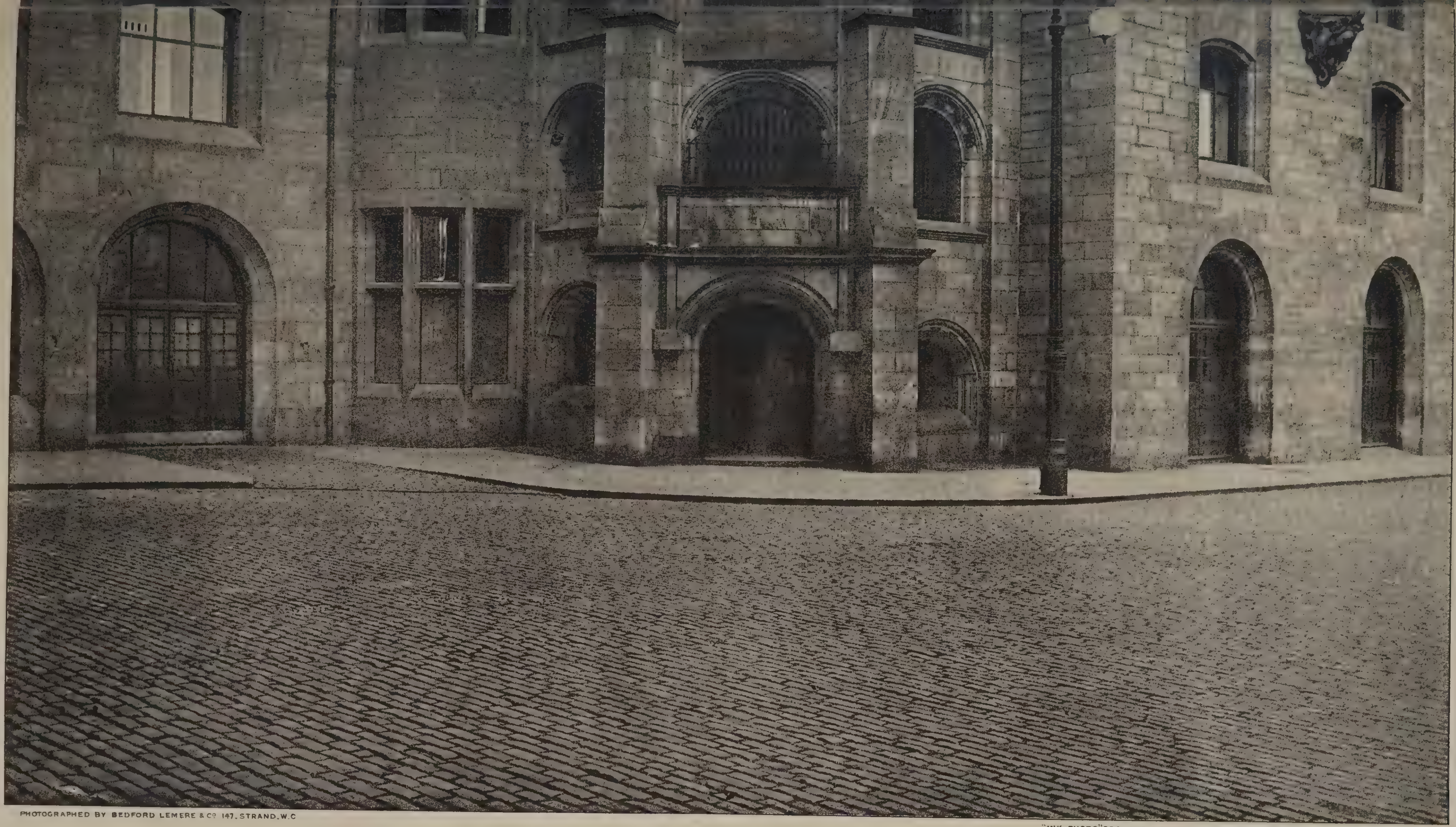

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JAMES B. DUNN, Architect.

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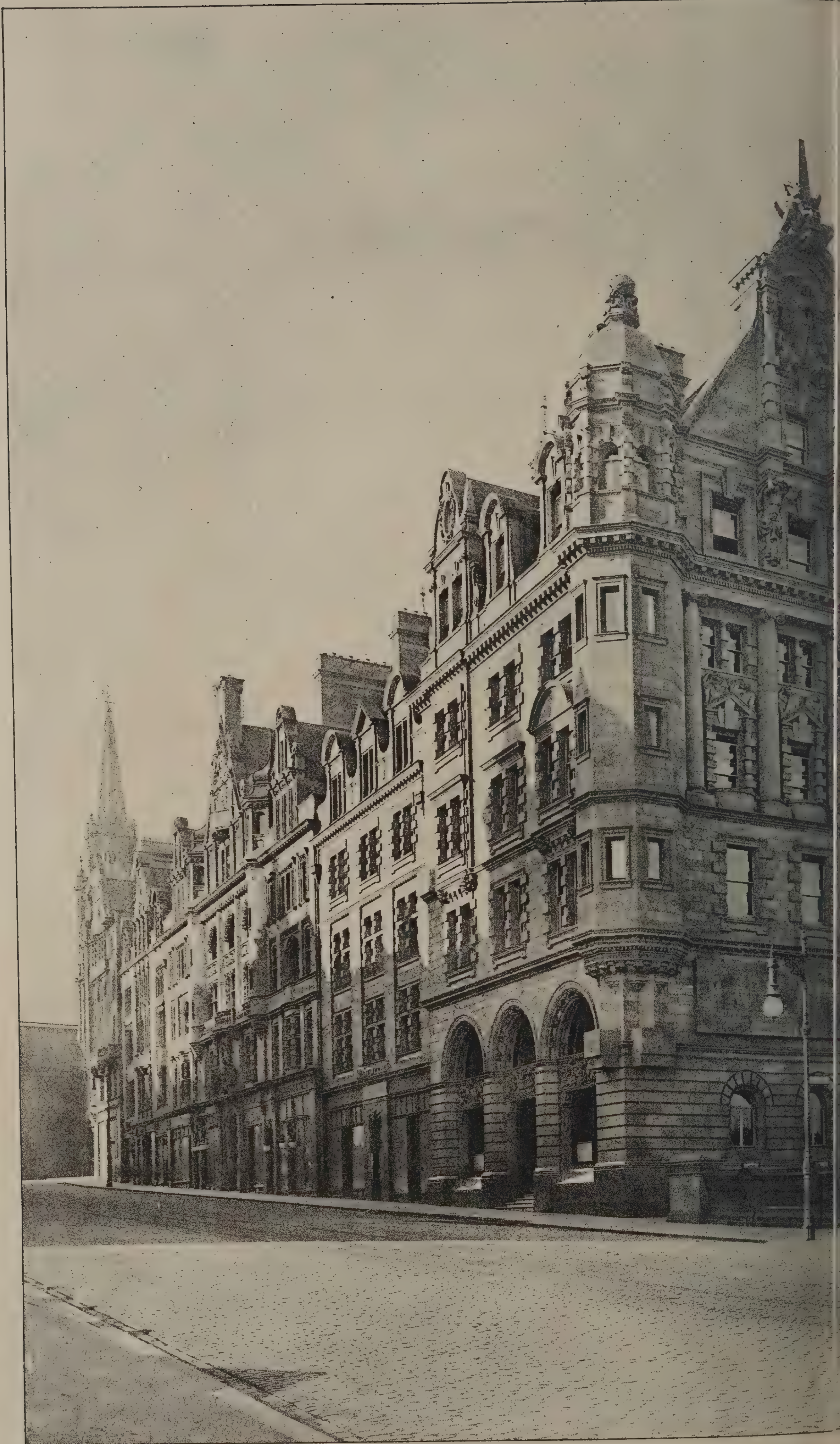

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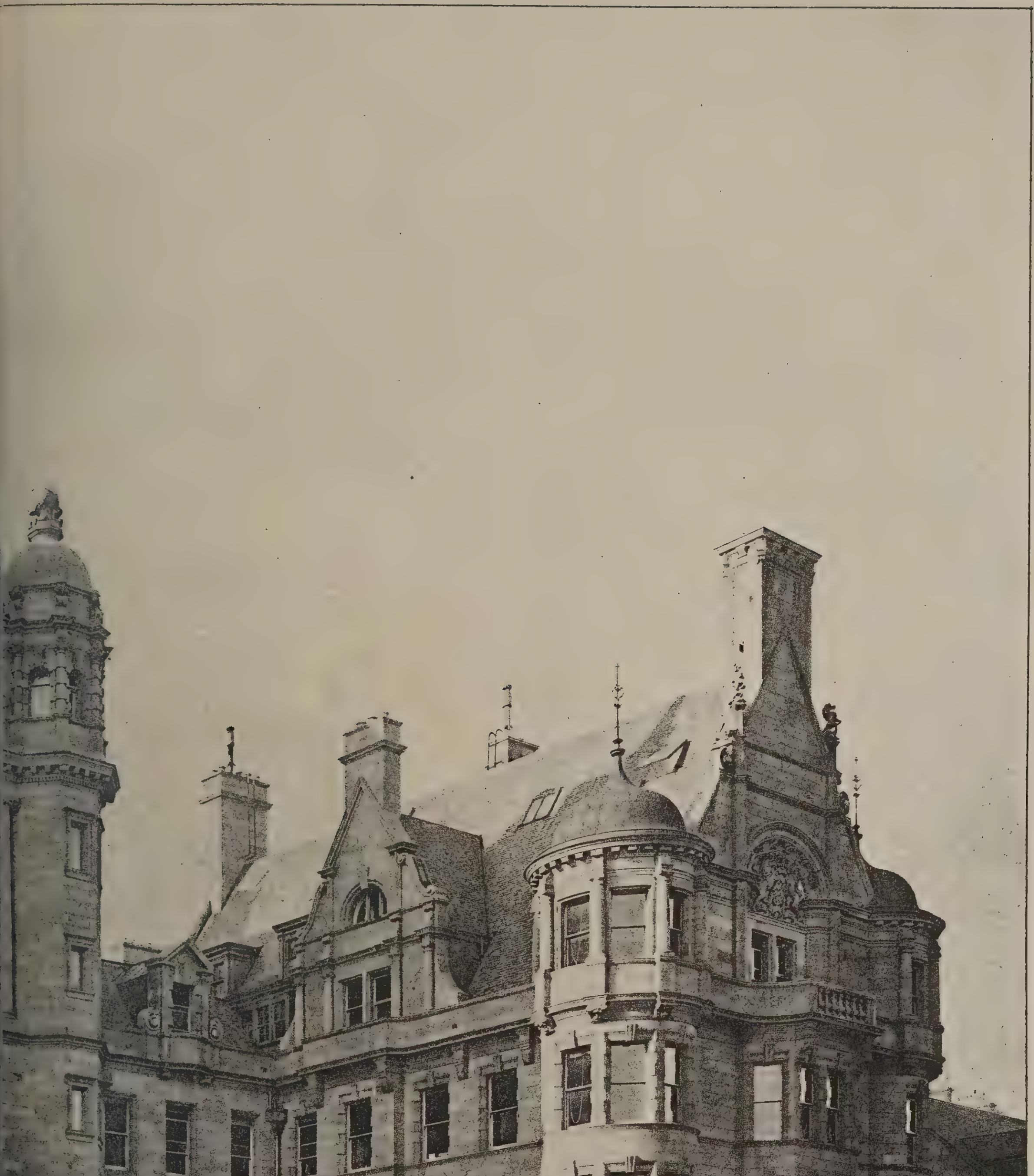

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The Architect.

THE WEEK.

Whenever an accident occurs in an English theatre the public at once ascribe it to some constructive defect, and consider the architect of the building as responsible for the consequences. But however admirable may be the planning and general arrangement, if overcrowding is allowed there cannot be immunity from danger. There is no denying that in some theatres people are admitted when there are no seats vacant. It might be supposed there was a peculiarity in theatres of being elastic. The London County Council, who have already aided in making theatres more safe, now propose to put a stop to overcrowding. The theatres and music halls committee, after consulting the Lord Chamberlain, have sent a circular to holders of licenses for places of public entertainment asking them to determine the number of persons who can with safety be accommodated in each part of the premises, and to cause these particulars to be registered on the plans in the possession of the Council, and to be exhibited in the premises. The committee think that not only the exit capacity but the general arrangements of each part of the premises should be carefully considered, and in no case should the number to be admitted be allowed to exceed that for which exits are provided. The Lord Chamberlain has expressed the opinion "that the number of persons admitted to any part of a theatre should not exceed the exit accommodation provided for such part of the theatre; that the number of persons so to be admitted be arrived at and determined by the London County Council; that the audience should not be allowed to stand in the gangways between or at the sides of the seats, but if the seating accommodation is not sufficient for the number of persons admitted, they might be allowed to stand at the back of the seating accommodation, but not in such positions as would interfere with the ready access to and egress from the seats." It cannot be said that the proposed arrangement is too severe on owners and lessees of theatres. In a panic the obstructed gangways would become most dangerous. Although fortunately no occasion has lately occurred to test the self-control of a London audience, there is always a risk that people will become excited from trivial causes.

Westminster is changing its character, and streets which not many years ago were little better than slums are now occupied by professional classes. The power of association is not, however, to be arrested. Messrs. Trollope, for instance, have informed the Westminster City Council that clients of theirs who were contemplating to rent an important block of offices in Tothill Street at about 3,000*l.* per annum eventually gave up the idea of taking the premises owing to the objectionable name of the street, which they considered a most unsuitable address for high-class offices. Messrs. Trollope asked that something might yet be done with a view to effecting a change, as it is important to owners of properties and the ratepayers that tenants should not be sent elsewhere owing to the retention of a depreciatory and misleading name for a street. Some of the inhabitants and property-owners had appealed three years ago to the London County Council that the Broadway and Tothill Street should be treated as part of the Broad Sanctuary. But the petition was rejected. The Westminster Council take the same view. Tothill Fields was no doubt at one time outside the boundaries of the Metropolis, and from an old engraving we see ladies and gentlemen strolling in it as they might now in Hyde Park. Stowe speaks of Lord Gray of Wilton having a house in Tothill Street, and that Lord Dacre purchased Stourton House and rebuilt it. He also relates that in 1226 John Mansell gave a stately dinner to the kings and queens of England and Scotland, but as his house in Tothill Field was not large enough he had to put up tents and pavilions to hold his guests. At the time of the Plague a part of Tothill Fields had to be used as a graveyard. But the indignation of Samuel Pepys proves that such a use of the ground was displeasing to those in power. Clients who are ashamed to possess property in Tothill Fields should ask themselves, "What's in a name?" and derive consolation in high rents.

Americans have an undisputed right to complain when they find surviving relics of antiquity in England are treated without respect or demolished. They possess a share in the past history of the country and in whatever can be said to belong to it. Indeed, we think it would be an advantage if protests from American visitors were more often heard, for too many of the English people believe that everything should be sacrificed to existing needs, or, in other words, to the gaining of profit. Mr. William Seth Warenne, of Wyoming, New Jersey, U.S.A., has this week expressed his dissatisfaction at what is about to be done in Lewes. He claims no doubt to be a descendant of the Counts of Warenne who once owned the castle of Lewes. Through the efforts of Sussex archæologists the castle has been preserved. But Mr. Warenne says he "was surprised and indignant to learn that a scheme was in progress for the erection of a huge and dwarfing modern building in the middle of this ancient moat (now called the 'gun field'), which, judging from a plan to be seen in the town, will effectually cover the green moat, and utterly ruin the whole of the unique castle scene, both from an artistic and archæological point of view." To make matters worse the new structure is, he says, to be put up in Cockney Gothic of red brick and painted wood. Having heard also that it is the fate of old castles to be given over as peep-shows and tea-gardens, he fears that Lewes Castle will have to follow the lead, or there yet might be found some other site for the new building. It is no doubt to be regretted that such a protest is necessary, but it would receive greater attention if heard at an earlier time. If the care of our ancient buildings could be transferred to Americans they would probably be more secure than under ordinary proprietors, who are jealous of allowing any interference with their rights.

There is a close relation between exchanges and business, and it is satisfactory to find that the Royal Exchange of Manchester is found to be inadequate to accommodate the increased number of members. Already some rooms and offices which were let to tenants have been reclaimed, involving a loss of revenue of 350*l.* a year to the proprietors of the Exchange. But the arrangement can only be considered as a temporary remedy. Over thirty years have elapsed since Messrs. Mills & Murgatroyd's building was opened, and the space which at that time was adequate is now insufficient. It is believed by some that the City Council should possess the Exchange as one of the municipal buildings, and that a new structure should be erected on the Infirmary site. At present the directors declare that they are not in a position to recommend any definite scheme. Mr. F. B. Ross has suggested that property on the other side of Bank Street and extending to St. Anne Street, having an area of 950 yards, could be acquired. It would, however, be necessary to erect a bridge over Bank Street to connect the present Exchange with new buildings. The Chairman says that it is necessary with an exchange to have one floor under one roof, and that a supplementary exchange would be useless. For that reason galleries which are set apart for certain trades have not been approved. The problem is an interesting one, but it is only one of several in Manchester which await solution.

AN ICONOGRAPHIC PROBLEM.

THE absence of late years of the English clergy from archæological meetings has been often remarked. It is also evident to all that students like Willis, Whewell, Petit, Webb, are not easily found either in universities or parsonages. We cannot determine the reason for the change. Their interest related to the revival of Gothic architecture, which was one of those powerful but mysterious movements for which it is difficult to account. The revival undoubtedly gave rise to intellectual exertion. We need not say that the efforts which were made with the approval of the clergy to restore buildings now find less approval. There has been a strong reaction, and it may account for the lack of enthusiasm with which Mediæval buildings are now regarded. There is a desire for more freedom of action, and many excellent clergymen are not disposed to accept the theory that they are in any way to be controlled by the planning of a building. There is also opposition to the belief which was expressed by Macaulay when he said that theology was not a progressive science, and it may be supposed that rigid, antiquated and symbolic buildings are not fitted for an advanced interpretation of doctrine.

An incident has just arisen in connection with the Liverpool Cathedral which suggests a departure from precedent to a remarkable extent. We desire to say that in treating of it we have no intention of entering into the religious signification of the proposal and of its rejection. We simply wish to look at the circumstance from the archæological, or rather from the iconographical point of view. In other words, we desire to consider the subject as it relates to sculpture. That course is allowable. If, for example, a bishop were to insist that Doric, Ionic, Tuscan, Corinthian or Composite columns should not be used in any church of his diocese because he associated them with Pagan temples and with worship which was strange to Christians, it would be permissible to point out that during hundreds of years the orders were introduced in Christian churches, and that it could not be said that they had a debasing influence on the piety of the congregation. Religious theories and architectural theories have had before now to co-operate. Cistercian Gothic is one instance of an effort by reformers and architects working together to attain a definite end. Sculptors and painters have also endeavoured to unite with clerics in the expression of prevalent ideas, and we suppose as long as the world lasts they all will continue to act with loyalty to Church principles.

It must, however, be granted to artists that they have a right to preserve a spirit of unity with their predecessors and to make the condition that they shall not have to reject æsthetic principles in architecture, or in sculpture or in painting. The earliest Christian paintings, such as we see in the catacombs, were, for example, largely in keeping with the decorations in places where humble people assembled. Indeed, Emeric David goes so far as to say that the Christian painters "had thrown a parting glance on the *chefs-d'œuvre* of antiquity, and had for the last time been guided by the genius of Apelles." That is to say, even in an age of persecution precedents were respected. The peculiarity of the Liverpool case which we are about to consider is the departure from precedent.

One of the praiseworthy results of the commencement of the Liverpool Cathedral is that some of the citizens have offered munificent gifts by undertaking the responsibility for parts of the building or for some of its needful decorations. Mr. Douglass Horsfall, in a like spirit of generosity, offered to present a reredos estimated to cost 5,000*l.*, but which probably would exceed that sum. He had a design prepared by Mr. Bodley, R.A., who is one of the architects of the building, and who is not an artist who would introduce any incongruous feature in a church, and especially in the reredos, which is usually supposed to be the object to which the eyes of visitors are first directed. Following the practice of centuries, in the centre was a representation of the Crucifixion. The offer was supposed to be declined because a representation of the Ascension was not proposed instead. The reason for the rejection by the Bishop of Liverpool is so important that we think it right to print his Lordship's words :—

> The reredos, it must be remembered, will be 50 feet high, and the central figure proportionately large. It was felt that such a reredos would traverse the principle upon which the committee have acted from the beginning—that the cathedral was to be built "by all and for all," and that no ornament was to be introduced likely to give needless offence. And inasmuch as the very heart of Christianity is not a dead but a living Christ, and as such a scene as the Ascension more fully and forcibly expresses this great fact, Mr. Horsfall was invited to allow the Ascension scene to take the central place and the Crucifixion scene to stand among the carved pictures illustrating the life of Our Lord which were to be placed below. This, as we understood, he was unable to do. As in the last resort it rests with the Bishop to decide the character of the ornament to be introduced into a cathedral such as that of Liverpool, I am prepared to accept all responsibility for the action of the committee. The very great regard that I have for Mr. Horsfall increases my deep regret that I cannot consent to the erection in our new cathedral of a reredos likely to wound the feelings of some of our best Churchpeople. If every donor had insisted on his own special mark or that of his own school of thought being stamped on its walls or on its ornaments, the great building on St. James's Mount would never have been begun.

His Lordship's words are weighty, and we take it for granted that they describe circumstances which will have to be recognised in other places. We therefore find that in the diocese of Liverpool, if not elsewhere, there are good people who take offence at a representation of what used to be considered as the fundamental idea of Christianity as a religion. Moreover, the awful mystery is considered to be no more than a special mark of a school of thought, a mere stamp on the walls or other ornament. It is for architects to consider his Lordship's declaration, which will no doubt be endorsed by other bishops of the English Church, for indeed we cannot regard the explanation of the Bishop of Liverpool as only an individual expression of good taste as applied to ecclesiastical art.

It cannot be denied that in the history of art different interpretations have been dominant in respect to Divine beings who have to be represented. As we have suggested, joyousness was not absent from the scenes in the catacombs amidst the remains of martyrs. We also know that Christ, Who first was represented as the Good Shepherd, was subsequently depicted as a stern Judge. One of the early Christians, who may have worn near his heart a small plaque of the "Lamb of God," would be horrified if he could see the stupendous figure which Michel Angelo introduced in the *Last Judgment* which he painted in the Papal chapel. The representations of the artists probably corresponded with the ideas of the majority of people on the subject. Sometimes, as in the case of Savonarola, reformers endeavoured to have traditions respected by the adoption of types which originated in a more primitive age, but, speaking generally, religious art is an exponent of the faith prevailing at the time the respective works were produced.

Now, whatever was the state of fervour among Christians, they appear at all times to have made the Crucifixion predominant in their churches. There was not always a representation of Christ, and realistic representations came later than those in which the victim was suggested by a symbol. Although in the catacombs only a letter, or a letter with a crossbar, was painted, every accepted worshipper understood the full meaning of the symbol. It might not have been formally written out, but there seems to be little doubt that there was a *disciplina arcani*, by which the Christians became acquainted with meanings which were not perceptible to the Pagans. Whether it was right or wrong for them to prefer a suggestion of suffering rather than a journey heavenwards, it would not be for us to discuss. But the fact remains that the earliest Christians acted in that way. As Didron says, the Cross is more than a mere figure of Christ: it is in iconography either Christ Himself or His symbol. "Ubi crux est, martyr ibi" (Where the Cross is, there is the Martyr) was an early statement. The Cross by itself served Christian believers to recall the tragedy as well as would the latest French or German representation. Evidently the early Christians endeavoured to imitate the Cross by extending their arms in prayer. Every student of iconography knows that although the form was so simple, efforts were made to devise varieties of it, some of which have been repeated in the plans of churches. It is also remarkable that often when Christ is represented as a Conqueror He appears as holding the Cross to recall His earthly career. Emperors and kings since the time of Constantine have introduced the Cross as an important feature of their crowns.

It is a subject for wonder how rarely in Early Christian art representations of the Ascension are to be found. The Evangelists are very brief in what is said about the removal of Christ from earth, and the author of the Acts of the Apostles imitated the Gospels. This fact should be remembered by anyone who considers the subjects selected for treatment by Christian artists. The earliest representation of the Ascension which exists is found on the ivory cover of a sacramentarium of the ninth century. It is recorded that a painting of the eleventh century once existed in a Benedictine monastery. But inquiry on the subject has not been rewarded. The artists, we may assume, acted under the direction of the clergy, and preferred the triumph of Christ, in which they were enabled to imagine Him as throned in Paradise. The great figure at Chartres shows Christ treading beneath Him the lion and the dragon. There is a nearly similar figure at Amiens and another at Rheims. The Greek artists have painted Christ as an archbishop or patriarch in order to enhance the subject. As processions were supposed in Roman and later times to be the best way of celebrating victories, some artists also adopted such incidents to suggest the Saviour's glory as a Conqueror.

As we have said, there have been variations in religious opinion which have affected artists. We are only stating an historical truth when we say that hitherto the number of representations of the Crucifixion are far more numerous than those of the Ascension. Works for churches having the former subject have been continuously produced. Whether it is wise in the twentieth century to set aside the established custom is a question which artists cannot answer. Hermeneutics is now in a different position from what it held in the Middle Ages, and the degree of importance which is to be attached to scriptural events must therefore vary. But it would be well to remember that the Ascension is a more difficult subject to treat, especially in stone, than the Crucifixion. "He was taken up, and a cloud received Him out of their sight," or "After the Lord had spoken unto them He was received up into Heaven," are words which it is difficult to render in form or colour. In the reredos of St. George's Chapel, Windsor, Sir Gilbert Scott adopted the Ascension as a central panel. But the marble clouds and marble rays of the *vesica piscis* appear bizarre if compared with the trees and curtains in the side panels which represent other manifestations of Our Lord. That work, although excellently carried out by the late Birnie Philip, is evidence of the great difficulty which attends all efforts of the sculptor to suggest Christ unless as the crucified victim. The reason has been given in a passage by T. De Quincey which is little known, but which is worth the attention of all who would attempt innovations in sculpture for churches:—

> The characteristic aim of painting is reality and life; of sculpture, ideality and duration. Painting is sensuous and concrete; sculpture, abstract and imaginative. The *existere* and the *esse* of the metaphysicians express the two modes of being which they severally embody. Hence perhaps it is that Jesus Christ has been perpetually painted and but rarely sculptured; for in this mysterious incarnation, this entrance of Deity within the shade of time and passion, we must recollect that the Divine is the true nature of Christ and the human His superinduced nature; consequently it is to His human nature, as in this case the preternatural, that our attention is called. Life, therefore, or being in time—which is here the uppermost idea—fits the conception of a Christ to painting. But if the case had been reversed, and a nature originally human were supposed to have projected itself into eternity and in some unspeakable way to have united itself with the Deity, the Divine nature would in this synthesis of two natures have been the preternatural or superinduced and the human nature the ground. Such a conception would be adapted to sculpture.

Thomas Uwins, R.A., once made a picture of the interior of the workshop of an ecclesiastical sculptor in Naples. The discussion over the figures by the artists who were present would not perhaps be edifying to pious people. But it is difficult to talk about works in stone without appearing to be of the earth alone. It cannot, however, be denied that a sculptor although able is never certain that he is representing a withdrawal from the earth to the clouds with any approach to accuracy. He has never witnessed a scene of the kind, and all he can do is to reason out the possibilities by analogy. Martyrdom, on the contrary, was long practised, and indeed there are legends that men were crucified for the benefit of artists. The desire to work with truth may have had something to do with the preference of a Crucifixion over an Ascension, and it may still be advantageous to continue to be respectful to accuracy in adorning our churches. The divine may soar beyond the earth, but the sculptor resembles his material, and is subject to the influence of gravitation.

THE ARCHITECTURAL ASSOCIATION SKETCH BOOK.*

ALL who take an interest in the Architectural Association should be gratified when they look at the new volume of "The Sketch Book." It is entirely the work of young members, and it therefore testifies that at present there exists no sign of decay. The Association has been altered in many ways, but the plates of the ninth volume show that there is no falling off in architectural drawing, and that buildings are measured in all their details with as much zeal as in the past. The volume has additional interest beyond that of any ordinary collection of architectural subjects, for it is an augury of excellent work in the future. It is also evidence that as yet no desire to break away from the past has revealed itself, or of belief with the young architects of some continental countries that freaks are of more importance than any examples which have been bequeathed to us.

The title-page by Mr. E. F. Reynolds is suggestive. We have an open arch with Byzantine piers, for that style is now in favour, through which we see various examples of different styles which seem to be connected by roads, and which reach to a Greek temple on a hill as if it were a climax of the art. This forms a creditable introduction to the plates.

There are seventy-two plates in the volume, of which forty-five relate to England, six to Scotland, two to France and nineteen to Italy. The proportions are significant. France, which at one time when Gothic was in the ascendancy afforded so many subjects, can no longer compete with Italy. It is also worth noticing that secular buildings, especially residences, occupy most of the plates. In other words, students prefer to measure the class of work which has most relation with modern practice in England.

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* *The Architectural Association Sketch Book.* Third series. Volume IX. Edited by Mr. William G. B. Lewis and Mr. Theodore Fyfe. (London: The Architectural Association, 18 Tufton Street, S.W.)

The first building is Lake House, Wilts, by Mr. T. F. W. Grant. It is described as "originally part of a monastic establishment, and is about 3 miles south of Amesbury. Its main features are Elizabethan, but an old letter in the possession of a former owner suggests that it might be as early as Edward VI., or even earlier. It is built of stone and dressed flints ranged in courses." A plan, elevations, section and mouldings are given. The church of St. Oswald, Ashbourne, is selected by Mr. L. M. Gotch, and is shown on six plates. It is a well-known example, and Parker reproduced the brass tablet which records its consecration by Hugh de Pattishull. The plan is very remarkable in its irregularity, and pains have been taken to record the deviations in a way which cannot be doubted. The Kingston Almshouses, Bradford-on-Avon, are shown by Mr. H. A. Hall. The inscription gives the date of their erection as 1700, but at first sight they will be taken as older. Each inmate has a bedroom and a living-room over it. But there could be no degradation in living in so pleasing a building. Very different is the Fellows' Building of King's College, Cambridge, which was measured by Messrs. Dennis, Edwards & Drysdale. The architect was James Gibbs, whose design was preferred to Hawksmoor's. Mr. W. S. A. Gordon shows a part of the choir screen in Carlisle Cathedral. It is a Renaissance work, and evidently Italian, without anything suggestive of ecclesiasticism except the monogram I.H.S. The screen was presented by Salkeld, the last Prior. Haddon Hall, in Derbyshire, is a difficult building to survey owing to the irregularity of the plan, which is a consequence of the additions and alterations at various periods. Mr. E. G. Wylie shows the hall with a completeness which has not hitherto been attempted. The ornament of the interior woodwork is not always of the highest character. But in a mansion with so romantic a history few care to be critical. The fittings are interesting. The Church House, Ledbury, was measured and drawn by Mr. J. H. Gibbons. It is a fine example of sixteenth-century timberwork, with projecting bays supported by brackets. St. Paul's, Deptford, is an Italian design by Thomas Archer. The church was evidently not intended as a landmark, for it was only about 60 feet in total height. But it is not without dignity, and the interior is well adapted for services. The building which is shown by Mr. T. J. Bee does not deserve the abuse it has received from critics.

The six plates on which Mr. Harold Hillyer has represented Somerset House are capital examples of draughtsmanship, which is not, however, served by the introduction of two small photographs, which are indeed little more than blots. Lining, lettering, ornament are all worthy of a practised hand. When the size of the structure is recalled it will be allowed that the task undertaken was no light one. The drawings indicate the work of three architects, for Robert Smirke and Pennethorne made additions to Chambers's plans. It would have been an advantage if some of the interior could have been shown, for there is much within which is worthy of Chambers. The Archbishop's Stables, Maidstone, which come next, is a freehand drawing by Mr. Arthur Welford, that is adapted to the style of the work, in which timber is largely used. Mr. J. H. Gibbons also gives freehand drawings of stalls in Manchester Cathedral, which are examples of elaborate carving. A stained-glass sundial in a window at Marlborough is drawn by Mr. J. C. Robinson in a style that is suggestive of sixteenth-century glass painting. The gnomon is missing.

The Coleridges have given a literary interest to Ottery St. Mary Church, which has been drawn by Mr. Vincent Hooper. It is a fourteenth-century building of a reddish pebbly sandstone, the dressed work being in white. The church was restored by Mr. Butterfield about 1849, but the lady chapel had been undertaken before by Mr. Woodyear. Another peculiar plan is that of St. Giles's Church, Oxford, of which drawings are given by Mr. B. H. Collcutt. They are timidly handled, but are careful. The church is a specimen of very early Gothic, and the windows especially have been noted as indicating the progress of the style. The Butter Cross, now the Town Hall, of Peterborough is generally admired as an example of seventeenth-century work well adapted for its uses. Mr. L. Wilkinson has made an effective freehand drawing of it. Shipton Court, Oxfordshire, dates from 1603, and is a good instance of the English mansion of the period. The plate is by Mr. C. W. Smith. The Manor House, South Wraxall, is shown on five plates by Mr. H. A. Hall, and is well deserving of so much attention. Part of the building was erected in 1426-7, and there were additions in 1598-1600. The fine coved ceiling, which is one of the features o the mansion, is not suggested. The three drawings o the cloisters, by Mr. Vincent Hooper, and the entrance to Vicars' Close, by Mr. Gibbons, show interesting parts of Wells Cathedral.

On one of the Scottish plates are sundials at Braehead House and at Cramond House, by Mr. J. M. Scott; the latter is dated 1732, but has the characteristics o an older time. Five plates have been assigned to the church of St. Monance's, in Fifeshire, which was founded in 1362. A description of the church is given but as it is written in sloping block lettering which has been greatly reduced, it is not legible. There exists a belief that capital letters alone are adapted for announcements that are to be artistic, and if the letters are wel formed there is no doubt the uniformity has a decorative value. But unless the lettering can be read it is simply like a wash of colour, as in this case. Mr. A. G. Wilson who made the drawing, could find a lesson if he compared his description with that on Mr. Vincent Hooper's plates, where the lettering increases the interest of the lines of detail.

France, as we remarked, supplies materials for only two drawings of churches in Normandy. One is of the church at Vatteville, showing a very interesting exterio of late Gothic, drawn in freehand by Mr. Wontner Smith, and another at Villequier, which bears some resemblance to the first and is drawn by Mr. A. E Martin. Both are charming examples of village churches.

The Italian examples begin with a drawing by Mr Gibbons, of Mino da Fiesole's tabernacle in the church of S. Croce, Florence. It is probably the most perfec example of its class which has been produced. In mos cases the tabernacle is a safe, but this one suggest a palace, before which angels bearing flambeaux ar waiting. S. Croce also yields another subject, th Pazzi Chapel, which has been drawn by Mr. A. G MacNaughtan. It was erected from Brunelleschi' designs, and was adorned by Lucca della Robbia. Th columns are Corinthian, and the details possess refinement which would be worthy of any age. Mr. Morle has drawn one of the coffers in the Bargello, which i adorned with Florentine lilies, or fleur-de-lys, in gesso which fill the spaces between ornamental iron bands The same decoration is used on the lid and the ends Mr. MacNaughtan, who supplies the greater numbe of the Italian drawings, devotes two to a doorway i the sacristy of the Certosa, Pavia. There is not a mor ornamental building in Italy, and the doorway is i keeping with the greater part. There are portraits o the Dukes, scriptural and allegorical representations and an abundance of minor ornament. A plan, sectio and elevation are also given of the church of Sant Maria di Canepanova, which was commenced in 1492 b Bramante. It may be described as a double churc with several chapels and altars. The exterior is rathe plain. Mr. James McLachlan has prepared two drawings of ceiling decoration from Pistoja. In one heraldry is employed and in the other floral decoration. Pope Julius III. took a great interest in England, but he deserves to be remembered for his desire to erect a perfect villa in Rome. He prepared the first plan, but many architects were connected with the building. Vasari declared that he was the designer, though anything he did was said to have been inspired by Michel Angelo. Vignola had also a share in the work. Sculptors and painters likewise united to make the building unique. Under a later Pope it became a veterinary school. Mr. McLachlan occupies eight plates with the representation of it. It does not suggest, however, the advantage of co-operation among different architects. The architectural details are of an ordinary kind, and we suppose a precedent could be found for every one of them. But we should recollect that when it was erected there were somewhat finer views of Rome to be obtained than at the present time, and that the statues and fountains were additional attractions. The drawings of the villa form an effective ending to the volume.

THE LAW OF COMPENSATION.[*]

By a Barrister.

"Compensation" is a word which conveys to lawyers the satisfaction to be made to owners for the interruption of their rights of property by virtue of statutory authority, and only such compensation, if any, as the statute directing or authorising the thing to be done or the statutes incorporated therewith have provided can be recovered. In the two volumes before us we have an excellent work on this important branch of the law and the procedure thereunder. An Act of Parliament is the only method by which in this country a person can be compulsorily dispossessed of his property, and then only, as a rule, if it is for the public good and upon the terms of paying full compensation.

In this work there are nearly 100 statutes collected together dealing with this subject of compensation, and the labour of collecting, arranging and noting them must have been enormous—in fact, the author tells us that the labour extended over six years.

The system adopted is to give the statute, then to state the principles under the different sections, giving in addition in the form of illustrations the numerous reported cases on those principles (some 2,700 in all), which reported cases are treated with sufficient fulness in quotation to make the work useful. We are pleased to note that the actual date of each case has been inserted, a most useful factor in the value of a judicial decision.

In the present age of encyclopædias and collections or digests of cases and statutes, rather than treatises on a particular branch of the law, this work before us is a good example of such a collection. Not being a treatise, it does not deal with subjects that remain matters of opinion or construction. On such matters the student is not assisted, but for the business man who finds it impossible to devote his time to a minute search of authorities, and who perhaps has not the advantage of the statutes and reports on his shelves, the work will be most useful and trustworthy, and will undoubtedly attain a high place as a guide. To those whose interests are affected and seek compensation under some one or more of the different statutes, we heartily recommend the work. They will find it most useful, if not indispensable.

We do not pretend to have read the volumes through. We have not done so. A work of this kind is for reference. We have, however, tested it on several points, and have found each time that the subject is treated with sufficient fulness to make it useful to the practitioner.

Some cases of compensation have been omitted such, for instance, as the compulsory purchase of tramway undertakings by local authorities. The principles laid down in those cases are well worthy of consideration.

Among recent statutes should be noted one passed on August 4, 1905, entitled "An Act to give compensation for Damage by Fires caused by sparks or cinders from Railway Engines" (5 Edw. VII., c. 11), which places on railway companies the liability of making good damage exceeding 100*l.* to crops by their engines, giving the railway companies certain powers of entry to prevent and extinguish fires, and providing compensation for such entry and any damage done thereby. This Act comes into force on January 1, 1908.

The volumes have an excellent table of contents and list of cases. They are well and carefully prepared.

It is a good plan, and one which we welcome, to have a copy of the index at the end of each volume. A good index is most valuable; to have it in each volume is a great saving of valuable time, preventing the necessity of using both volumes when only one is necessary.

The forms at the end will be found not the least valuable part of the work, and the forms of costs and other general information make the work altogether complete.

There are quite a goodly number of works on this particular subject, but among them this one will, we venture to assert, take a high place. It is well got up, and it is so up to date that we shall be greatly surprised if it does not become quite the standard work on a subject which is getting more and more generally important as new statutes provide continually new cases for the application of the principles of the law of compensation.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A meeting of the Institute of Architects was held on Monday evening last at Conduit Street, W., Mr. E. T. Hall, vice-president, in the chair.

The Chairman said he presided at the meeting because the President still continued to be very unwell, and he had now been confined to bed for three weeks. They hoped the President would be with them at the next meeting.

Mr. Alexander Graham (hon. secretary) announced the decease of Mr. William Gibbs Bartleet, who was for forty-eight years a member of the Institute, having been elected as Associate in 1858 and Fellow in 1869.

Mr. Maurice B. Adams asked why the Institute was not represented on the Strand Further Improvement memorial committee, which met that afternoon at Burlington House.

The Chairman in reply said the Council of the Institute had decided that it would not be wise to take part in the present movement, as they had very recently made representations to the County Council in favour of an independent scheme.

Leadwork.

Papers on this subject, illustrated by lantern views, were read by Messrs. F. W. Troup and Lawrence Weaver, F.S.A.

Mr. Troup said that as the architect had frequently to decide what metals should be used on a building, it was imperative he should know the peculiar properties of each, and why lead ought to be used in one case, cast-iron in another and pewter or copper in a third. To bring out the most prominent qualities of lead—viz. its durability at ordinary temperatures, its ductility, its exceptional weight and its low melting-point—the lecturer compared it with other metals in common use, showing its advantages for open-air purposes over copper, tin, zinc, iron, &c. Lead required, however, great care and judgment in its use. As regards the material as now supplied—milled lead and cast sheet—milled lead is a dull and pasty material compared with lead run out in the old way by casting the molten metal on a sand-bed to the actual thickness required for use. Cast sheet can be had in the open market at the present day at a rather higher price than milled sheet of the same weight. For a flat lead roof, often liable to be walked upon, there is not much to be gained from using cast sheet. The surface texture of the cast sheet, however, is worth making some slight sacrifice to obtain, especially if the old-fashioned open roll or flat welt-roll can be used. Either of those joints is preferable to the usual modern roll with its wooden core. The wood roll has to be large and therefore clumsy, else leaks arise from capillary attraction between the sheets. The open roll has not this defect, but cannot stand under much foot traffic. When lead is used in a spire or turret it is certainly worth while to use cast sheet. Even with a wooden core in the rolls the cast sheets do not cause suction to such an extent as milled lead. The natural surface of the lead as it is cast is the best to use as the exposed surface in a roof or elsewhere. When there is ornament of any sort to be cast with the sheet, then the under or sand surface must be exposed. This can be as rough as you like for roofs or rain-water heads, and a coarse sand may be then used for the casting bed. But for things which come close to the eye, or which may be handled, a much finer sand should be used. More care is then required in the casting to provide for the escape of the steam formed by the molten metal on the damp sand. For a "repeat" ornament or for casting letters and figures for dates a lead mould can be used. This is easily made and lasts for a long time, but a brass or cast-iron mould is more permanent. For knobs and finials it is possible with a lead or brass mould to fill it with molten lead, and after two or three seconds empty out the interior unsolidified lead, giving a hollow casting without the trouble and expense of making a core, as for a brass or iron casting.

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[*] *The Law of Compensation.* With Appendices of Forms, Rules and Orders, &c. By Alfred A. Hudson, of the Inner Temple, barrister-at-law. In two vols. (Published by the Estates Gazette, Ltd., and Sweet & Maxwell.)

For decorative forms the lecturer counselled restraint, lead was so easy to twist and turn. The designer should never forget his material while designing on paper; even in modelling the final material must never be lost sight of. It is quite possible to make a casting from a single pattern in several different materials, but to take full advantage of the best that can be got out of each material that original pattern ought to be varied in each case. For a plaster cast, for example, moderately high relief may be had; but it should be soft in contour, and there is no special reason for economy in material. In lead, however, there is reason for economy of material, and one can have finer lines, and can reckon on bending, soldering, or even to some extent bossing up the casting after it is made. There are several other ways of ornamenting lead. It is very easy to make fretwork patterns for ventilating panes in windows, or as a vallance round a leaded dormer or door-hood. This is best done with chisels and gouges on a block of lead. Lead can also be incised, and the incised lines filled with various coloured mastics in letters or other shapes. One of the most gorgeous possibilities for decoration in lead is to be had by tinning the metal in some design of ornamental or figure decoration, and then glazing over the tin surface with transparent colours.

In the Middle Ages the chief method of working lead and using it in buildings was simply to take the plain cast sheet, and after cutting it to the outline as near as might be, and in convenient size for handling, to dress, boss and beat it up to the shape required. Sometimes these forms were carried on wooden cores; at other times on a framework of iron, or were simply fixed by iron hooks and brackets on the timber framing. This art is as dead as Queen Anne. It is a personal art like sculpture—very often it was sculpture—and no amount of designing by another for the craftsman to execute will do much to restore it. The art has been so long divorced from the craftsmanship, and the teaching of tradition so long deserted, that their reunion is hardly a matter to be accomplished in a single generation. We can but live in hope.

Mr. Lawrence Weaver took for his subject the earlier lead spires. Lead, he said, had no nobler use than in the covering of spires, for spires were the greatest concession that Gothic architecture had made to constructed beauty and symbolism. The lead spire has a character all its own, and maintains its character of a spiritualised roof more intelligibly than a stone spire can do. The white, almost glistening patina which comes with age on lead, where the air is not befouled with smoke, makes the spire stand like a frosted spear against the sky, and the slight twists, which almost every timber spire has taken, give a peculiar sense of life. Dealing with the history of lead spires, and discussing the question of origins, the lecturer quoted the classification of spires given by Mr. Francis Bond in his "Gothic Architecture," and gave his reasons for offering the following classification, based on Mr. Bond's, but corrected:—

Pathless Spires.

1. Collar-type, *e.g.* Ryton.
2. Broach-type, *e.g.* Braunton, Barnstaple, Godalming, Ickleton, Swymbridge, Almondsbury.
3. Pinnacled type, *e.g.* Long Sutton, St. Nicholas and Aberdeen.

Parapeted Spires.

1. Collar-type, *e.g.* St. John's, Perth, the tower of which has a heavy over-sailing parapet, within which the spire stands.
2. Broach-type, *e.g.* Hemel Hempstead.
3. Straight-sided type, *e.g.* Harrow, Chesterfield, Minster, Great Baddow, Much Wenlock, Wickham Market.
4. Spirelets, *e.g.* East Harling, Wendens Ambo, Swaffham, Hitchin, Sawbridgeworth, and Ash, Kent.

A certain difficulty arises in the definition of lead spires owing to the somewhat loose use of the word "broach." What the lecturer called the "collar-type" is sometimes called "broach," but incorrectly. The essence of the broach he took to be that the filling-in between the angles of the tower and the diagonal faces of the spire shall be of pyramidal form. The influence of the stone broach on the form of the lead broach may be admitted without suggesting that the lead broach was a slavish or unintelligent copy of the stone broach. It was a question of carpentry. The construction of the collar-type is more congenial to wood than is the broach. The octagonal framing calls (but not very urgently) for strutting at the base. In the broach the main framing is strutted by single timbers running through the diagonal faces of the octagon; and this is not so satisfactory as the double strutting of the cardinal faces, which obtains in the collar-type. From the weathering point of view the lecturer considered the stone broach to be as efficient as the collar-type, and he felt strongly that the broach was far the more attractive. Having given details and brought out the chief characteristics of examples of the different types classified, the lecturer made some remarks by way of constructive criticism. His illustrations, he said, had shown how beautiful lead spires can be and are. The lead gave the architect no trouble; he gained infinite variety of surface by different arrangements of the rolls; he outlined great cartoons on the faces of his spires (as at Châlons-sur-Marne) and blazoned them with gold and colours; he wanted the metal-cased architecture of the poets, and he got it. His difficulty was that he could not keep it. The timber framing was always liable to destruction by fire. To-day, however, there is an alternative. Our spires can be built in steel and sheathed in lead, and will defy the flames. Here is one field where steelwork may come into its own, may come faithfully and gracefully, may be the metal bones of a metal architecture. The lecturer claimed for it that it preserved the initial idea of a spire that it is a glorified roof; that the lead surface gives opportunities for colour treatment that a stone spire cannot give. Had the Mediæval architect found the material to his hand, we should be pointing to-day to his leaded steel spires as notable examples of the Gothic spirit. In conclusion, the lecturer showed a design for a leaded steel tower done by Sir Charles Nicholson to illustrate his suggestion. The design, he said, was instinct with the poetry and mystery which are the characteristics of great architecture. He could only hope that some ecclesiastical Mæcenas would be found for whom Sir Charles could materialise this dream church encrowned with lead.

Lieutenant-Colonel L. Prendergast proposed a vote of thanks to the readers of both papers, and remarked that few people had a knowledge of leadwork in its artistic sense. Yet there were great architectural works throughout Europe which owed much of their æsthetic value to the surrounding of leadwork.

Mr. H. V. Lanchester seconded the motion, and asked what was the most suitable method of putting lead on a construction built of a material other than wood. They all liked lead, particularly for the fine junction it made with Portland stone and the harmony of colour produced when so employed. Could they get a thoroughly fireproof construction and apply lead to it satisfactorily? It seemed to him that this was possible, and if Mr. Troup had had experience they would like to hear the result of his observations.

Sir Charles Nicholson said he would like to know what timber was used in the Chesterfield spire. He had always understood the twisting was caused by the use of green wood, probably elm.

Mr. C. Harrison Townsend, in cordially supporting the vote of thanks, said reference had been made in the papers to one whose name was well known to all, and who had done much to revive the interest in the craft and working of lead—and he referred to Professor Lethaby. There was, however, an earlier worker in the field, Mr. Eden Nesfield, who was keenly interested in the revival of leadwork and who introduced it in a more or less elaborate way at a time when it was commonly used in plumbers' work.

Mr. Maurice B. Adams suggested that uralite would be a good material to employ when lead and ironwork were used together in construction.

Mr. E. W. Hudson and the Chairman joined in the discussion, and the two lecturers having replied the meeting terminated.

GLOUCESTER CATHEDRAL.

At the meeting which was held in Gloucester to arrange for raising funds to carry out repairs to the cathedral, Mr. F. W. Waller, the architect having charge of the fabric, described the work required to be done, in accordance with his estimate which accompanied the Lord Lieutenant's circular. Referring in the first place to the question of the three pinnacles mentioned—one of which had been repaired, and the other two required to be taken in hand without delay—he explained, says the *Gloucester Journal*, that the one which was now temporarily protected had been so covered over because they were obliged to remove a great portion of it before the winter began, lest it should fall during the rough weather. As would be readily understood, scaffolding erected at that height could not remain over the winter, because the wind pressure upon it would be such as to cause it to be blown in all directions. Therefore they were obliged to remove that portion of the pinnacle, and the men had not been able to continue the work during the winter, but directly the weather conditions permitted it would be proceeded with again. With regard to the north transept pinnacle, that had been a source of apprehension throughout the whole of the season. The Dean had called at his office many times with regard to it, and his oft-repeated question had been, "Will it remain where it is for the winter?" He (Mr. Waller) had replied, "I hope it will, but I cannot answer definitely." Still, it was there now, and he trusted, as the winter was nearly over, that it would remain long enough to enable it to be taken down without any danger to the structure being involved. From what he had said it would be seen that the immediate necessity as regarded attention to those pinnacles was very great; they were actually dangerous. Mr. Waller passed from the question of the pinnacles to that of the tower, which involved even more important considerations. They had known for many years that there had been a slight movement in the tower, but it was so slight as not to occasion any alarm. In fact, it was known as far back as from thirty-five to forty years ago, when the large restorations were carried out and the colouring of the roof of the choir was done; and there was evidence now that the joints of certain portions of the groining were then open and had been filled in. What had now produced an acute stage was that a piece of stonework, 3 feet 6 inches long and 6 or 7 inches in diameter, recently fell from the groining of the choir roof in the immediate neighbourhood of the tower. That piece of stonework was of sufficient size to occasion some alarm, and to show the necessity of taking immediate steps to effect any repairs that might be necessary. With the permission of the Dean and Chapter, he (Mr. Waller) at once had a scaffold erected in the choir, reaching right up to the choir groining; and a very careful examination had been made of that portion of the groining from where the stone fell. It was evident that the settlement there had increased since the pointing-up of some thirty-five years ago. He was not yet in a position to give them any definite opinion as to the cause of that settlement. It might be due to one or two causes. Theories had been advanced to the effect that it might have been the result of the earthquake which occurred some few years ago, and that would seem to be a very reasonable suggestion. It might be remembered that the whole of the pinnacles and the tower were restored under the direction of his late father some years ago; the whole of the work was thoroughly well done, there was no accident throughout, and everything up to the time of the earthquake stood well. They made many examinations of the pinnacles. They were examined immediately after the earthquake, and there was no question whatever that they were to a certain extent shaken; some of the stones were cracked through, but not to such an extent as to cause any apprehension or doubt. Still there was sufficient evidence to show that the tower had been affected by the earthquake, and what might have affected the pinnacles at that height might also have affected the groining lower down. Another point to which he might call attention was that the fracture on the stone which fell the other day was partly old and partly new. The old part of the fracture had dust and dirt upon it, and the new part was quite clean. Since that had happened large photographs had been taken of the settlements which had shown themselves in order that there might be a complete record of what was the position at the present day. After the photographs were taken he (Mr. Waller), with the permission of the Dean and Chapter, had had all the settlements which were visible filled up with plaster of a friable kind, the whole thing had been watched with the greatest care, and up to the present time not the smallest indication of further movement had appeared. He had had them examined within half an hour of the commencement of that meeting, and he was able to state that there was not the slightest indication so far that the building had moved since the piece of stonework fell. Further, with the permission of the Dean and Chapter, on the previous Sunday he caused a full peal to be rung on the cathedral bells for the purpose of testing whether the sway consequent upon the ringing of the bells was sufficient to influence the tower to the extent of producing any cracking in the plaster which he had had inserted in the settlements, and he was glad to be able to report that there was not the slightest evidence of anything of the kind. Therefore, as far as he could state at the present time, he thought he might say that the ringing of the bells had no influence of a prejudicial character upon the tower. He went with his son on to the leads of the tower whilst the bells were being rung, and the oscillation was very small, in fact, it was less than he should have anticipated. Proceeding, Mr. Waller said what they were engaged in doing at the present time was to make plans and sections of the tower with a view to ascertaining the exact conditions existing. What he was endeavouring to do was to look at the question rather from a scientific point of view—if he might so term it—than from the wholly architectural standpoint, because he wanted to know the exact conditions existing, what the pressures were around the various points and every possible detail of that kind which would be necessary to enable him to express a definite opinion later on. Referring to the question of the roofs, Mr. Waller pointed out that the greater portion of them were covered with large sheets of lead. The size of a sheet of lead for such a purpose ought not to be more than about 2 feet 6 inches wide by 10 feet in length, but a large number of sheets on the cathedral roofs were twice, and some even three times that size. The result had been that with the constant expansion and contraction of the metal the leads were constantly cracking and moving, and so bad had it been at times that when there had been a high wind parts of the lead sheets would be actually rolled up on the roof, and they were obliged to periodically send men to replace them and put the roofs in order. As a consequence, a quantity of water had in the course of years gradually got in and decayed some of the timbers, and the roofs of the nave, south aisle and north transept were particularly in need of repair. They were in a very bad condition, and that was especially the case with the roof of the south aisle, where, in consequence of the steep incline, the lead had, to use a technical expression, been creeping down constantly and getting into the gutters, leaving the upper portion all exposed. There were a number of other and minor matters, all of which were more or less pressing. The points, however, to which he would more particularly direct attention, as being extremely urgent, were those in reference to the pinnacles, the tower and the roofs to which he had last alluded.

The Committee of the Holborn Borough Council have selected the following six architects to prepare plans in competition for the proposed Council offices:—Messrs. Collcutt & Hamp, Bloomsbury Square, W.; Mr. Edwin T. Hall, Bedford Square; Mr. Henry T. Hare, Hart Street; Mr. A. Brumwell Thomas, Queen Anne's Gate; and Messrs. Septimus Warwick & Herbert A. Hall, South Square, Gray's Inn. Each architect will receive an honorarium of twenty guineas.

NOTES AND COMMENTS.

It has been announced that Lord Lytton contemplates turning a part of his Knebworth estate into sites for buildings, and that some are to be utilised for the erection of cottages. This change is remarkable, for, as the Bulwers have long held the lands of Wood Dalling in Norfolk, the Lyttons, who were originally settled in Cheshire and Derbyshire, about four centuries ago came into possession of Knebworth, which once belonged to the Crown. A fortress was erected on the site of the present mansion in the time of Edward III. In the reign of Henry VII. it was superseded by a mansion in the contemporary style. The Tudor structure has been perpetuated in the existing building with, it must be owned, a great many somewhat fantastic and incongruous additions. The building exercised great influence on the versatile writer and statesman who became the first Lord Lytton. He was proud of his possession. But it is likely he would not have disapproved of the project which the present representative of the family has conceived. Although he was not always successful in his pictures of humble life, it is recorded of him that he used to visit the cottagers of the village in his youth, and that he had travelled on foot through the greater part of England and Scotland seeking adventures among people who were of a different class from his own. He even went so far as to anticipate Borrow in living with the gipsies. The proposal indicates the tendency of opinion at the present time, for if it is realised other descendants of Norman nobles may also use their estates in a like way.

It used to be supposed that proprietorship of land extended to the centre of the globe, and the corresponding right was conveyed to leaseholders. Evidently the private Acts passed on behalf of "tube" railways have put an end to so extensive a privilege. A case was heard last week before the High Bailiff of Westminster, in which Mr. Coburn, a solicitor, sought compensation from one of the "tube" companies for interference with the subsoil of his premises in Long Acre. The railway is at a depth of 120 feet below the pavement, and the company had arranged with the freeholder to pay at a nominal rate of 1*l.* per lineal foot. On behalf of the company the claimant's right to the subsoil was denied, and it was stated that the damage was only hypothetical. The engineers to the company said that vibration was no longer possible, as motors were used instead of locomotives. Counsel for the claimant stated that he was not asking for compensation for vibration, but that as the company had taken some of the leaseholder's soil they should pay for it. The jury came to the conclusion that no damage was suffered and judgment was therefore given for the company.

Culross, which is about twenty-two miles from Edinburgh, appears to have been selected as a site for a monastery as far back as the sixth century. In 1217 a Cistercian abbey was founded in the town, and there are other remains of religious establishments. Some authorities believe it was the birthplace of St. Kentigern, whose name is associated with Glasgow Cathedral. No one would therefore be surprised at the discovery of carved stones near one of the ancient buildings. But one which is described by a correspondent of the *Glasgow Herald* is of a kind that will surprise archæologists. The stone, it is said, "is over 4 feet long, and after the old lime, which is most adhesive, had been washed and brushed off, the exquisitely-carved figure of a chieftain was revealed, clad in double armour. The figure is that of a recumbent naval warrior, carved on a splayed base. The head, which is gone, had reclined on a richly-bound cushion. The shoulders, chest and arms are encased in plate armour, the hinges and nail-heads of which are quite distinct, those at the elbows being richly ornamented. There is also a cape of chain mail covering the shoulders and upper part of the breast. The lower part of the body has a covering of plate mail or plain armour, which is hinged and fastened at the sides. Over the heart is carved the top rigging of a ship with a cross at the head of the mainmast, from which a pennant is flying. Over the right thigh there is a full-rigged ship of Roman build, having the head of a dragon for a figure-head; it also has a cross at its mainmast and flies a pennant, whilst on the left thigh there is what might represent a strip of tartan. It is in the form of twelve raised squares in three rows suspended from a hand. An ornamental belt surrounds the loins, to which the sword is attached. The belt represents an adornment of precious stones. All that remains of the sword is the roped hilt and richly carved guard. Beneath the plate armour with which the body is covered there is a girdle of chain mail protecting the lower part, very richly decorated, and where the limbs have been broken off. The workmanship is almost as perfect as when it left the sculptor's hands." In Culross we might expect the representation of a Viking, but his armour would have been of a different class. Sometimes Mediæval sculptors were unable to treat figures in a broad way, and they endeavoured to compensate for their shortcomings by bestowing unusual attention on the detail of armour or other costume, which is a mechanical work requiring no great ability. The Culross figure may be an instance of that class.

This year's competition for the Achille Leclerc prize of 1,000 francs, which is open to architects only, has had one result, viz. that henceforth partnership in a design will not be allowed. The subject given was a maritime terminus for a railway. Fifteen designs were submitted. The prize was awarded to M. Lengyel, who had been a pupil of M. Pascal. The jury wished to reward another, but it was discovered that two architects had co-operated in its production, and that one of them had already gained the prize; hence the new regulation which will apply to future competitions. Unless the reports are not to be credited, the same kind of aid has often been exemplified, and the Academy of Fine Arts would be wise to have a comprehensive inquiry on the subject. Every year there are so many prizes to be awarded, opportunities are offered to clever men to aid others. In England we do not consider that "crammers" are acting unfairly, and in Paris artists also are not indisposed to give help to others on the understanding that they share the spoil.

ILLUSTRATIONS.

CATHEDRAL SERIES.—TRURO: VIEW OF NORTH TRANSEPT.

NEW OFFICES OF "THE SCOTSMAN," EDINBURGH.—RECEPTION-ROOM.—THE LOBBY.

THE ROYAL DUBLIN FUSILIERS S.A. MEMORIAL.

COTSWOLD HOUSES, PAINSWICK.

A PAPER was read by Mr. Ellis Marsland at the meeting of the Society of Architects on the 15th ult. concerning the Cotswold houses, and which was published in *The Architect.* The style of the houses was described as having simplicity for a keynote. This was caused by the fact that only local materials were employed. There was an abundance of stone, and it was used not only for walls but for floors and roof coverings. The wood was oak, chestnut and beech; it was hard, and joinery work was confined to doors and panelling, the glass of the windows being let into the stone mullions. As lead could only be obtained from a distance hips were omitted and the roofs carried through to gable ends, thus becoming a leading feature of the style. Of some of the houses Mr. Marsland is the fortunate possessor, and therefore they are likely to be preserved regardless of the changes of architectural fashion.

TOWN HOUSES: OLD AND NEW.*

I IMAGINE that the housing of mankind, whether in hamlets, villages or towns, must always be a subject of great interest to those who have to inhabit them or are responsible for their development, and to none more so than to members of your Institute, who have used up all the adjectives in our language (together with a few of alien birth) in describing them in such varied and attractive wording that owners have been known to refuse to part with their properties after perusing the agent's glowing description of their charms.

But "housing of the working classes" and "garden cities" have been so much to the fore during the past year or two that the charms of a mere town house or mansion are in danger of being forgotten; and it seemed to me, when it was suggested that I should read a short paper before you this evening, that it might interest you to consider some of the old town houses, their merits and defects, as viewed from our present standpoint, and to compare them with modern houses of the same class both as to planning and architectural treatment, and I purpose confining myself to good class houses and mansions of the detached and terrace type in old and modern London. I do not intend to weary you with a lot of dry descriptions of buildings; but after slightly reviewing the development of some of our streets and squares, and a few remarks on the differences between the houses of the seventeenth and eighteenth centuries and those of recent times, to show you a series of views upon the screen, which will, I hope, be of interest, and enable us to examine the subject more vividly than any written description can do.

Before the Great Fire of 1666 the streets in the City of London were for the most part narrow, dark, frequently unpaved and unlighted. The houses were constructed largely of wood and plaster, with storey overhanging storey, and topped with gables in artistic profusion. Many of these old houses were very picturesque, as, for instance, that of Sir Paul Pindar in Bishopsgate Street Without. This house was pulled down to make room for the extension of the Great Eastern Railway, but a portion of the front was preserved, and, as you doubtless are aware, has been erected in South Kensington Museum. It is a fine example of its type, and the house contained good woodwork and ornamental plastered ceilings. Old Fish Street, before it was destroyed by the Great Fire, was typical of the kind I have mentioned, being so narrow and "the garretts so close together that opposite neighbours might shake hands without leaving their homes." But there were exceptions to these narrow and crowded streets, such as Aldersgate Street, about which a writer in 1657 says:—"It resembles an Italian street more than any other in London by reason of its spaciousness and uniformity of buildings." (I wonder how wide it was?) There were in this street a number of fine mansions, including one belonging to the then Marquis of Dorchester, also Thanet House, the latter being one of Inigo Jones's works. It was distinguished by a series of eight Ionic pilasters with festoons of flowers pendant from the volutes, and even as late as 1879 there was a row of old houses, some with projecting upper storeys, on the west side. Inigo Jones had travelled much in Italy, and upon his return built many fine houses in the Palladian style. Some of his work can still be seen in Lincoln's Inn Fields; also Harcourt House, Cavendish Square, and Ashburnham House, Westminster, with its charming staircase, is his work. He is said to have been the first well-known architect to group his rooms, hall and staircase together, but his most important work was, of course, the banqueting-hall, Whitehall, being the only part built of the wonderful palace he designed for James I.

Immediately after the Great Fire Sir Christopher Wren produced a plan for rebuilding the City upon entirely new lines. Like other great schemes, however, it was not, for many reasons (principally financial, no doubt), carried out according to its author's ideas; but the Fire gave rise to new and improved methods of building, bricks taking the place of timber to a great extent. In 1668 Pepys describes a fire in Mincing Lane:—"A detached house not yet quite finished; and the benefit of bricks was well seen, for it burnt all inward and fell down within itself, so no fear of doing more hurt." Improved methods of building did not, however, prevent bad building, for the "jerry" builder existed at that period, as, quoting Pepys again (1668), he writes:—"I hear that there is fallen down a new house, not quite finished, in Lombard Street, and that there have been several so, they making use of bad mortar and bricks."

Apart from the narrow streets and rows of houses there were many large detached town mansions belonging to the nobility, but the terrace of town mansions was not general. In Devonshire Square (1620-70) the whole of the north side was occupied by Devonshire House, the town house of the Earls of Devonshire of that period, and there are records of many interesting detached mansions, such as Newcastle House, Lincoln's Inn Fields; Montague House, Bloomsbury Square; Burlington House, Piccadilly; and it is recorded by Elmes that Sir Christopher Wren built himself a house in Great Russell Street, but in 1823 "its noble front with majestic cantilever cornice was taken down by a speculating builder, and common 'Act of Parliament fronts' run up for four houses in its stead."

Very many of these old mansions were destroyed to make room for the great development of the City in the eighteenth century, when most of the principal residential squares and streets were laid out or rebuilt, with the exception of Belgravia and South Kensington, this being nineteenth-century work. I had occasion in a previous paper to look up the dates of these streets and squares, which, as they may be of interest to you, I will quote here. Commencing eastwards, we note that Devonshire Square was laid out between 1620-70, and was rebuilt later. Finsbury Square was laid out by the younger Dance in 1777 and was the first public place in London lighted by gas. Finsbury Circus was built in 1814. Its glories have departed and huge blocks of offices have taken the place of most of the old terrace houses. Bloomsbury Square was laid out in the seventeenth century, but rebuilt during the eighteenth and nineteenth centuries. Grosvenor Square, although laid out in 1695 by Kent, has been rebuilt to a great extent, and was "the last square lighted by gas." Cavendish Square was commenced in 1717 and 1718, but building was then checked by the bursting of the South Sea Bubble, and this square remained in an unfinished state for many years. James, of Greenwich, was the architect of the two stately houses still in existence on the north side, and which are examples of Wren's school.

The Brothers Adam built the Adelphi in 1768, some houses in Mansfield Street in the same year, Portland Place in 1778, a terrace of houses in Fitzroy Square in 1790-4. These are stone-fronted, and architecturally contrast with advantage when compared with their usual "stucco" treatment. Portman Square was begun in 1764, but was not finished until twenty years afterwards, and was then described as "on the outskirts of the town, approached on one side by a road, unlit, unpaved and inaccessible by carriages."

This brief list of dates gives us a rough outline of the history of the laying-out of some of the principal squares and terraces of houses built during the eighteenth century.

It is a matter for reflection to trace in the evolution of town houses how the trend of fashion has moved westward. And here it may be interesting to note that in most towns the fashionable quarters are in the west, and "fashion" for centuries past in London has ever moved "westward." We are told that "the first emigrations of the London merchants westward (who used to live over their shops and counting-houses) was about the middle of the eighteenth century, and only those who had secured large fortunes and possessed reputations beyond the shadow of doubt ventured as far as Hatton Garden."

We may now consider the work done in the nineteenth century to meet this westward movement, and we soon discover that the speculator was again to the fore.

Regent Street and Regent's Park were laid out by John Nash from about 1812 to 1820. Belgrave Square was built in 1825 from designs by George Basevi, and Eaton Square by Cubitt in 1827—"Cubitt built" being (long afterwards) a sufficient guarantee for well-built houses. This term is used advisedly, as, alas! there is much to be deplored architecturally. From that date to the work done upon the Grosvenor, Cadogan and Queen's Gate estates (dating from about 1880), there is not much to interest us. A very large amount of rebuilding has taken place upon these estates during the past twenty years, and, fortunately, a great deal of it has been done by some of our leading architects, and there can be seen the work which must go down to future generations as some of the best town house work done during the latter part of the nineteenth century. There is considerable variety in the plans and elevations, and the development shows the reaction from the Portland Place and Harley Street type.

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* A paper by Mr. Henry White, F.R.I.B.A., read before the Auctioneers' Institute at Hamilton House on Friday, March 9.

The "Act of Parliament front" referred to seems to have been responsible for a great deal of the monotony of house fronts of the eighteenth century, and they, of course, still exist in many streets. They were divided into classes, ranking as first, second, third and fourth-rate houses, represented by Harley Street as a first-rate house; Gower Street, second-rate, and third and fourth-rate fronts can be found in various parts.

Now, upon examining the plans of the eighteenth-century town house or mansions in detail, we find that the attention of the architect appears to have been concentrated upon the reception-rooms and halls, the basement and upper floors being left to take care of themselves. Little care was bestowed upon the bedrooms, children's or servants' rooms, which for the most part were low, badly arranged, ill-lighted and unventilated.

Indeed, much of the work which has been found necessary (apart from decorative treatment) to modernise these old houses and to make them "liveable" has been in respect of such basements, upper parts and sanitary requirements, and I think you will be prepared to give the modern architect his due in having in so many cases successfully dealt with the legacy of defects left by his predecessors, who had not to contend with so many authorities, sanitary requirements and the numerous other conditions now considered essential in a good-class house.

So far as comfort goes, the modern town house is much more luxurious than was its prototype. Pope said of Burlington House—

> 'Tis very fine,
> But where d'ye sleep, or where d'ye dine?
> I find by all you have been telling
> That 'tis a house, but not a dwelling.

Of this same house, by the way, Walpole mentions that when the Earl of Burlington was asked why he built his house so far out of town, he replied, because he was determined to have no building beyond him. Think of that gentleman now.

A little study of the plans of the older town houses fills us with surprise as to how people really lived in them, as they contained so few of the amenities which we now deem essential. The basements were mere caverns with labyrinths in the way of corridors; the kitchens often as remote as possible from the dining-room, without lifts or other quick methods of service.

The staff of servants for an ordinary town house of the seventeenth and eighteenth centuries must necessarily have been much more numerous than is now required for the same class house. And where did this retinue sleep? The bedroom accommodation was very limited, and there were no bath-rooms. Now, a good class town house is not complete without a service lift, passenger lift, w.c., bath-room fitted with lavatory basin and towel airers upon each bedroom floor, housemaid's and linen-rooms, hot and cold water services to every floor, with telephones and electric bells to assist in saving labour wherever possible, and more bedrooms than were formerly considered necessary.

These improvements, together with the conditions imposed by various Acts of Parliament, have materially increased the size and costliness of houses, apart from the question of labour and materials; they have also given the architect fresh problems in design.

You will have observed, perhaps, that the town house of the seventeenth and eighteenth centuries rarely consisted of more than three storeys above the pavement level, with an attic storey in the roof frequently not more than 6 feet 6 inches high in the centre of the ceiling, with sloping sides and low windows hardly visible above the parapets, as in Portland Place—Fitzroy Square being an exception. Moreover, the ground floor was seldom raised much above the pavement level. Now we endeavour to raise the level of the ground floor for the purpose of making the basement lighter and more habitable, and we frequently have to get four and sometimes five storeys above the ground floor. These fresh conditions are largely responsible for the difference between the elevations of our modern houses and the old ones we have been considering, as old ideas of proportion have had to be abandoned, and the arrangement of the windows to meet the demand for bays and balconies, together with these features, do much towards setting the character of the street front. No doubt, also, these additional windows, and the desire to vary them in form and arrangement to prevent monotony, is the principal reason for the fussiness of modern designs compared with the quiet, unobtrusive effect of the older type of front.

Again, the ever-increasing value of a site in and around the centre and the West End of London has resulted in a demand for more to be "got out of" sites, and the architect is now called upon to provide on a 20-feet frontage more accommodation than was ever provided formerly upon much larger sites.

In the hands of educated and trained men I believe these fresh conditions have been an incentive to design of a high standard, as evidenced in many instances on the great West-End estates, but unfortunately the bulk of modern work is not done by highly-trained men, and the results are disappointing. I believe, however, that there is a constantly increasing number of capable men, and I hope the building public and great landlords are beginning to appreciate the better class of work, and that they will assist architects by demanding a high standard of design. However, until a better general knowledge of architecture obtains, and some kind of control is exercised by a body of advisers properly appointed, the patchwork appearance of our streets will continue, and we shall have bits of every conceivable style jostling one another in the same thoroughfare. For example, take Oxford Street from Tottenham Court Road to the Marble Arch. Here, with two or three notable exceptions, I am bound to admit that one must be optimistic to hope for much improvement in street architecture whilst the building-owners are satisfied with such a mixed medley of buildings as we now see in this, one of our principal thoroughfares; and I am of opinion that, for the sake of the appearance of our great city, some authority should be exercised to prevent our streets from being disfigured if the owners do not take more trouble and exercise more care in their own interests.

As a contrast I would point out recent developments in St. James's Street, where, whoever is doing the work, the result is much happier. Please let me add that with few exceptions I do not even know the names of the architects of the buildings in either thoroughfare, and I am merely trying to arouse your interest and to ask you to examine for yourselves, so that if you agree with me, I hope that whatever influence you can use will be directed towards beautifying the great city that I am sure we all love and are proud of. It is admitted by all competent authorities that our old architecture was something to be proud of, and it is certain that our old citizens took a much greater interest in the art of architecture than do the present day public, which I consider a great pity.

I do not wish to tire you with a dissertation upon architectural design, but should like to make a few remarks upon what, no doubt, appears to you and to many architects and others to whom the subject appeals, and that is as to the lack of any architectural schemes for the general development and improvement of our streets and estates, with the result that there is a general mixing up of architectural styles, each man considering his own front without reference to his neighbour, the result being "patchwork," a nice piece of work being spoilt by its shoddy neighbours only too frequently. I fear I cannot suggest a solution of this, except that it rests with the public to take more interest in architecture, for I believe that, as in other matters, when the public sees the need for improvement they will take pains and trouble to secure it.

Now, when the architect is frequently asked to produce in the same house rooms in different styles and periods of work, such as a "Jacobean" dining-room, "Turkish" smoking-room, "Louis Seize" drawing-room, and so forth, the result is a medley rather than a dignified composition.

In studying this subject, one cannot help being struck with the wealth of illustrations which are in existence showing the eighteenth-century work, many of which are upon the walls, and will presently be shown to you upon the screen. Why is there such an apathy now amongst the citizens as to the appearance of the London streets? Is there a Pepys or an Evelyn to hand down to future generations their views upon the streets and buildings of our time?

Since the Brothers Adam laid out the Adelphi, Fitzroy Square and Portland Place, and John Nash Regent Street and Regent's Park with its terraces, no general scheme for the architectural treatment of a thoroughfare has been carried out, although an attempt has been made at Knightsbridge, and the London County Council have tried to propound a scheme for the Strand improvement, but which, so far, does not promise to be very successful, owing to the impossible conditions said to be imposed in respect of the leases.

Until the beginning of the nineteenth century architecture had always been consistent in its design, the work gradually merging from one period into that of the next, and never "going back;" so much so that the trained eye can tell the date of the old buildings by their style and details of mouldings and other features. But owing to the change in the methods of work and training of the workmen, the death of the guilds and apprentice systems, and the introduction of so many new methods and materials and the facilities for travel, there was a very bad period of architecture in the early nineteenth century, and it is only in quite recent years that an effort has been made to revive our traditional work, and even now only by the best trained men. It is to be hoped that this return to our traditional national style may have in time some good effect, and free us from much of the meretricious work now to be seen. Down to the period just referred to architecture in England followed traditional lines very closely, and there were schools of trained craftsmen throughout the land, as is evidenced by the wide spread of the work of any given period.

The architect initiated the design, but much of the detail must have been left to the craftsman, as we find the same features and mouldings all over the country, only modified by local usage and materials. Now all this is changed. Tradition amongst the craftsmen has ceased. Indeed, the trained craftsman (as distinct from workman) no longer exists, and much more depends upon the architect than was formerly required of him. He must now be prepared to settle every point of detail of design and construction, and has to make drawings for the simplest piece of finishing if he hopes to get a satisfactory result. But this is not understood by the public, and I fear the architect is too frequently looked upon by the employer as a necessary evil instead of the guiding hand which is responsible for the success, not merely of the design—by which is generally meant the exterior of the building—but of the planning and scheme generally.

The average building-owner thinks mainly of the matter from a commercial point of view, and there is but little evidence of any large view of citizenship and the city beautiful being to the fore. Until such view is more general it will be only here and there that beautiful buildings will be erected. It is an age of speed and hurried work and hurried schemes, and I am convinced that even from a commercial point of view the result is not satisfactory.

To come back to town houses again, I draw your attention to Park Lane, and I think that a study of these homes of the millionaires shows an extraordinary conglomeration of buildings. There is no stately laying out worthy of such a position, but practically each house is different in style from its neighbour.

As to the planning of town houses. There are many different kinds of plans, or rather ways of planning, a terrace house for a given site; and in developing new property or remodelling old care should be taken to insure the proper treatment for the particular situation, as, if the house is to be built as a speculation, more depends upon the plan than upon the elevation from a commercial point of view. These plans may be divided into types, to be distinguished by the relation of the hall and staircase to the rest of the rooms. Various plans shown upon the walls illustrate my meaning, and each has its advantages and disadvantages. There is no doubt that a good entrance and large hall adds immensely to the attractiveness of the house if sufficient space can be afforded. Such a hall is shown in the Queen's Gate House, designed by Mr. Norman Shaw, and is very charming, becoming an integral part of the reception-rooms, in fact, and not the cheerless apartment it so often is. For houses where much entertaining is done it is of importance that the reception-rooms should be as much as possible *en suite*, so that at receptions the crowd of guests may not have to retrace their steps by the same way as they entered, but pass through the suite of rooms and so avoid the danger of a crush. In the older type of house which we have been considering we find the reception-rooms on two floors generally, consisting of dining-room, morning-room and library on the ground floor, single or double drawing-room and perhaps a boudoir on the first floor, and in the larger houses a bedroom and dressing-room with powdering closet beyond, as in the St. James's Square house, by Adam. Now in addition to these rooms a billiard-room is frequently demanded, thus using up more of the site than formerly.

The question of aspect cannot be considered to any great extent in town houses, but, of course, wherever possible, sunlight should be eagerly sought after, and if the house faces north, the principal reception-rooms should be at the back, facing south. Sunlight has a great influence on the general health and spirits of human beings, and particularly children, so that all possible means of getting same into the house, either by direct rays or from reflecting surfaces, should be adopted. Schoolrooms and nurseries should *never* face north. In making a survey of a house upon which to advise a client the above-named points should be borne in mind and carefully considered.

Heating and Ventilating.—Too little attention is directed (frequently on the score of expense) to the heating of halls and corridors. A system of hot-water coils is a very desirable addition to the hall, staircase and corridors, and makes for comfort by preventing draughts. No form of window has yet been devised that provides the simplest means of inducing natural ventilation of our rooms to equal the double-hung sash window, for by using deep beads on the cill the lower sash can be raised a little and so admit air at the meeting rails, and by lowering the top sash also a little, gives additional means of ventilation; but the principal point to notice in regard to the ventilating of any room is that the window heads be kept up as near the ceiling as possible to prevent stagnation of the air.

I fear, however, that sometimes the design of the elevation calls for some little sacrifice in this respect, *i.e.* the position of the windows as regards ventilation, but not to the extent one finds in many cases where the window cills are 4 feet from the floor, and the heads of the windows 3 or 4 feet from the ceiling, as I believe is the case in a large mansion in Kensington and in a modern block of expensive flats.

One of the drawbacks to many of the Adam type of house is that the rooms frequently lead from one to the other without corridor access.

Many of the above remarks apply particularly to the terrace house. It is, of course, impossible to lay down any hard and fast rules for the planning of detached mansions, but there are a good many illustrations of old and new houses here which I hope will be of interest to you.

Mention has been made of the detached mansions by Inigo Jones and Sir Christopher Wren, and their work, or its natural development, continued down to the latter part of the eighteenth century, the Brothers Adam being the only architects since Wren's time to formulate anything like a distinct school of design. The early part of the nineteenth century gave us John Nash and Decimus Burton with their Regent's Park terraces, Basevi's work in Grosvenor Square, and I do not think there are any other developments worth considering until the comparatively recent ones of the Grosvenor, Cadogan and Queen's Gate estates, of which various examples will be shown to you upon the screen, and you will find amongst them a lot of excellent work by some of the best architects of our time.

I would particularly invite your attention to the corner house in Queen's Gate, by Mr. Norman Shaw, the design of which shows a return to the traditional eighteenth-century work, which is all the more remarkable coming from such an ardent admirer and exponent of the charms of English domestic Gothic work.

In a former paper from which I now quote, I said that "in dealing with recent work it is difficult to differentiate between the characteristics of the plans of various architects, and it would be necessary to devote a special paragraph to the work of each man to bring out these points; but a study of the plans which have been published shows that in later years much has been done to give greater individuality to the plans of even ordinary terrace houses than was formerly the case. A writer has truly said that 'except in the minority of instances, town houses are not built by men who inhabit them, and rarer still is it where ground values and questions of light and air do not entirely overrule the æsthetic influences of architecture itself.' Indeed, most of the best modern work is that which has been done by architects for special clients to meet the latter's particular requirements."

The Late Mr. H. C. Richards, K.C., bequeathed the sum of 5,000*l.* for the purpose of rebuilding St. Paul's Cross in St. Paul's Churchyard. The *City Press* states that the Dean and Chapter have communicated with the executors to the effect that the rebuilding of the cross in the north-east portion of the churchyard would be attended with a great deal of inconvenience and difficulty. Plans are to be submitted to the executors for a smaller monument in the churchyard.

CALTON ROAD SCHOOLS, GLOUCESTER.

THESE schools, which were opened on the 28th ult. by Alderman Hartland, are erected on land situate in Calton Road, the site containing about 7,396 square yards, or about 1½ acre. The buildings consist of three blocks, and comprise mixed school, infants' school and cookery and laundry centre, with separate playgrounds for boys, girls and infants, each department having its own shelter sheds and out-offices. The mixed school provides accommodation for 500 pupils in ten classrooms arranged round a central hall, 61 feet by 32 feet, with separate entrances, cloak-rooms and lavatories for boys and girls and rooms for head and assistant teachers and school store on each side. The infants' school gives place for 310 children in six classrooms, also grouped round a central hall, 56 feet by 25 feet, with cloak-room and lavatories and head and assistant teachers' rooms, stores, &c. The cookery and laundry is provided with distinct accommodation for each department, both containing general schoolroom, cloak-room and lavatory. The relative position of the several schools and the general arrangement of the buildings is shown on the accompanying sketch plan, from which it will be seen that each central hall is provided with ample entrances and exits.

The schools are built of bricks from Mr. Whitfield's yards on Robinswood Hill, with Bath stone dressings, and the roofs are covered with Staffordshire tiles and the general treatment of the exterior is illustrated by the accompanying views.

The buildings are warmed throughout by hot water from a central apparatus room placed under the cookery school, and the system of pipes and radiators has been installed by Messrs. Beaven & Sons, Ltd., of Gloucester and London, under the direction of Mr. E. J. Cullis, C.E., of Gloucester. The schools are lighted throughout by electricity, the installation having been put in by Messrs. Woodward & Co., Ltd., of Gloucester. The whole of the classrooms are fitted with oak dual desks, supplied by Mr. James D. Bennet, of Glasgow, and the other furniture throughout the buildings is provided from the architect's designs by the Educational Supply Association, of London, and is executed in orham wood. The fixed blackboards are from the Bennet School Furnishing Company, of Glasgow. The window blinds have been fitted by Mr. C. P. Price, of Gloucester. The whole of the builders' work has been satisfactorily carried out by Messrs. J. Byard & Sons, contractors, of Gloucester, and Mr. W. H. Bush has acted as clerk of works. The foundation-stone was laid by the mayor of Gloucester (Alderman T. Blinkhorn) on October 26, 1904.

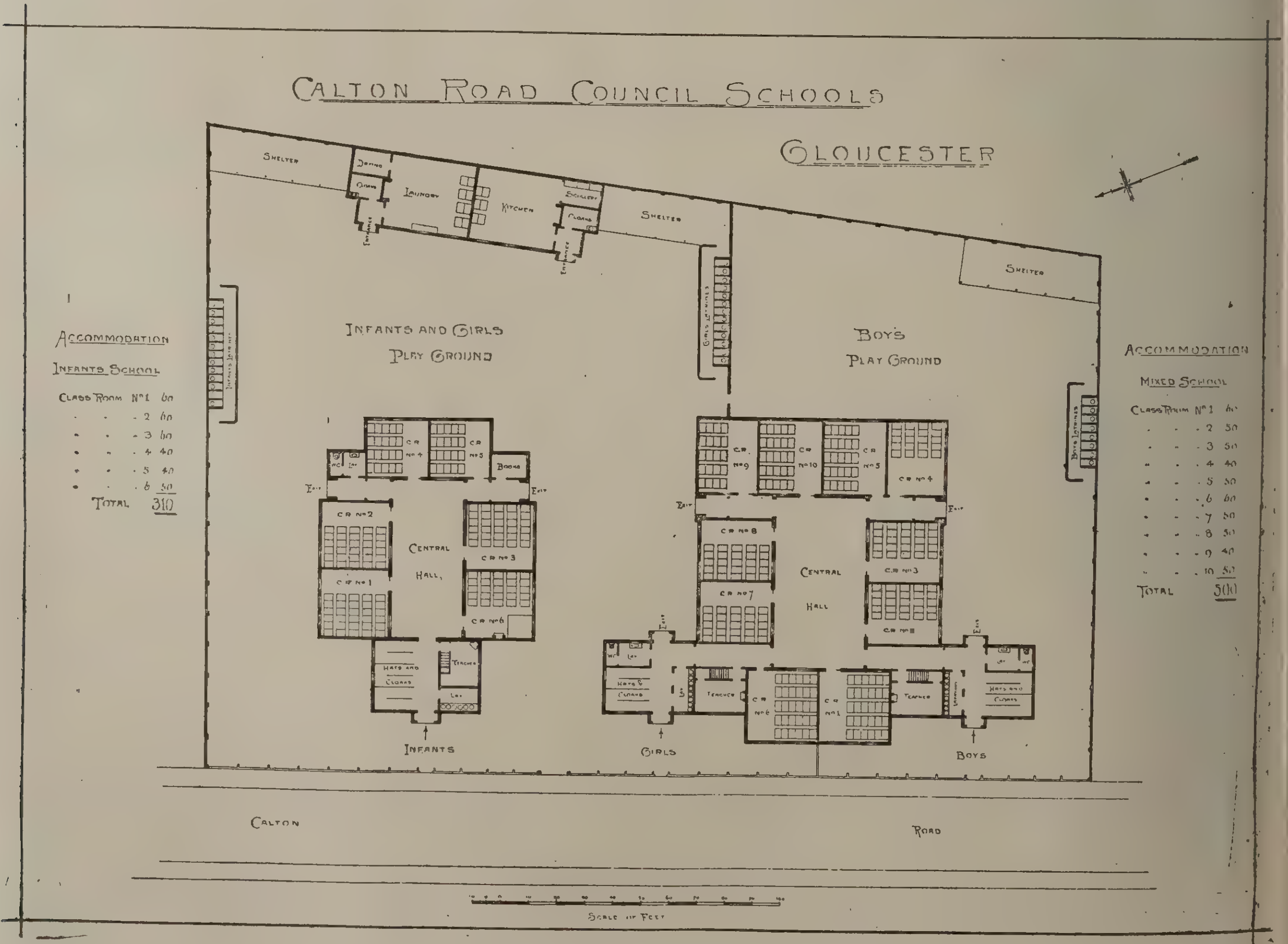
In the planning of these schools every effort has been made to produce a building that not only satisfies the requirements of the Board of Education, but which may be found up-to-date in every respect; and while convenience of arrangement for educational purposes has been most carefully studied, soundness of construction with economy has been rigidly adhered to.

The whole of the work has been carried out from the designs and under the immediate superintendence of Mr. Walter B. Wood, A.R.I.B.A., 12 Queen Street, Gloucester.

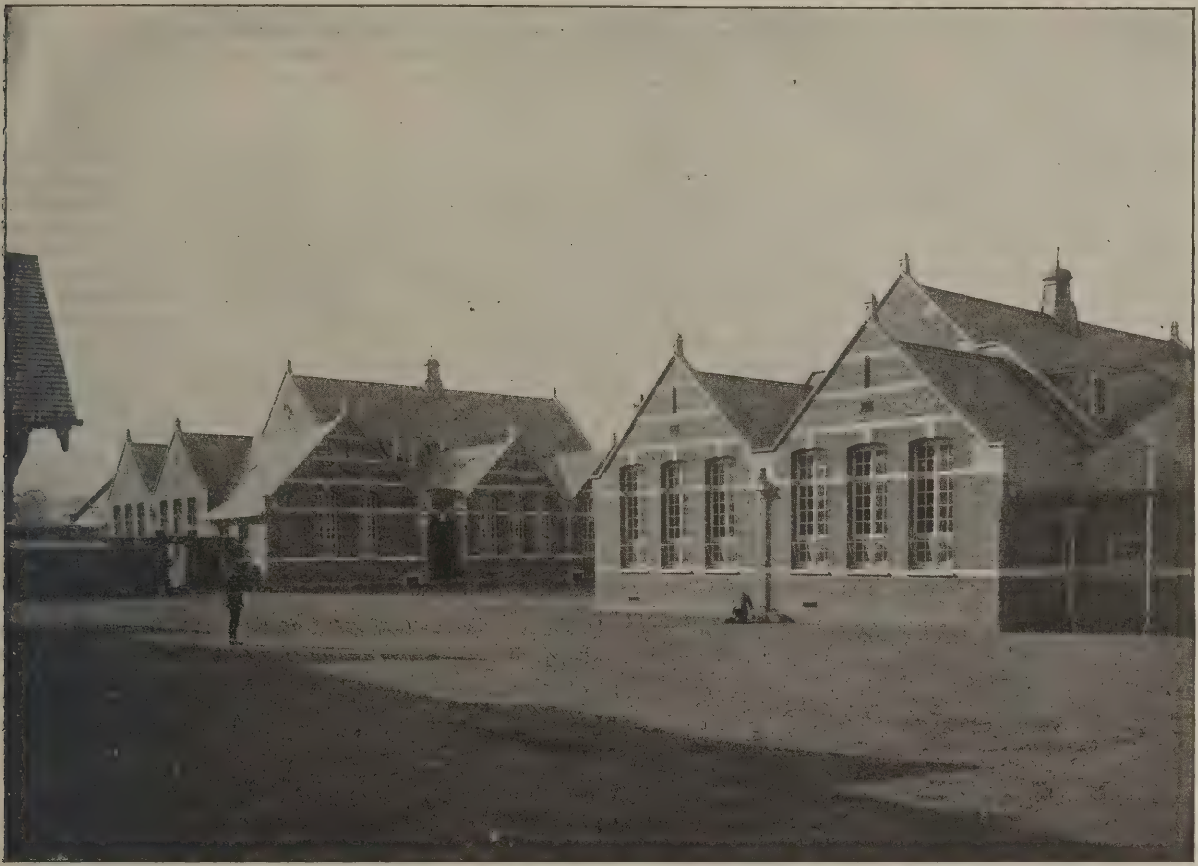
The entire cost of the building, with furniture and fittings and all attendant expenses, will probably amount to about 14,000*l.*

FURTHER STRAND IMPROVEMENT.

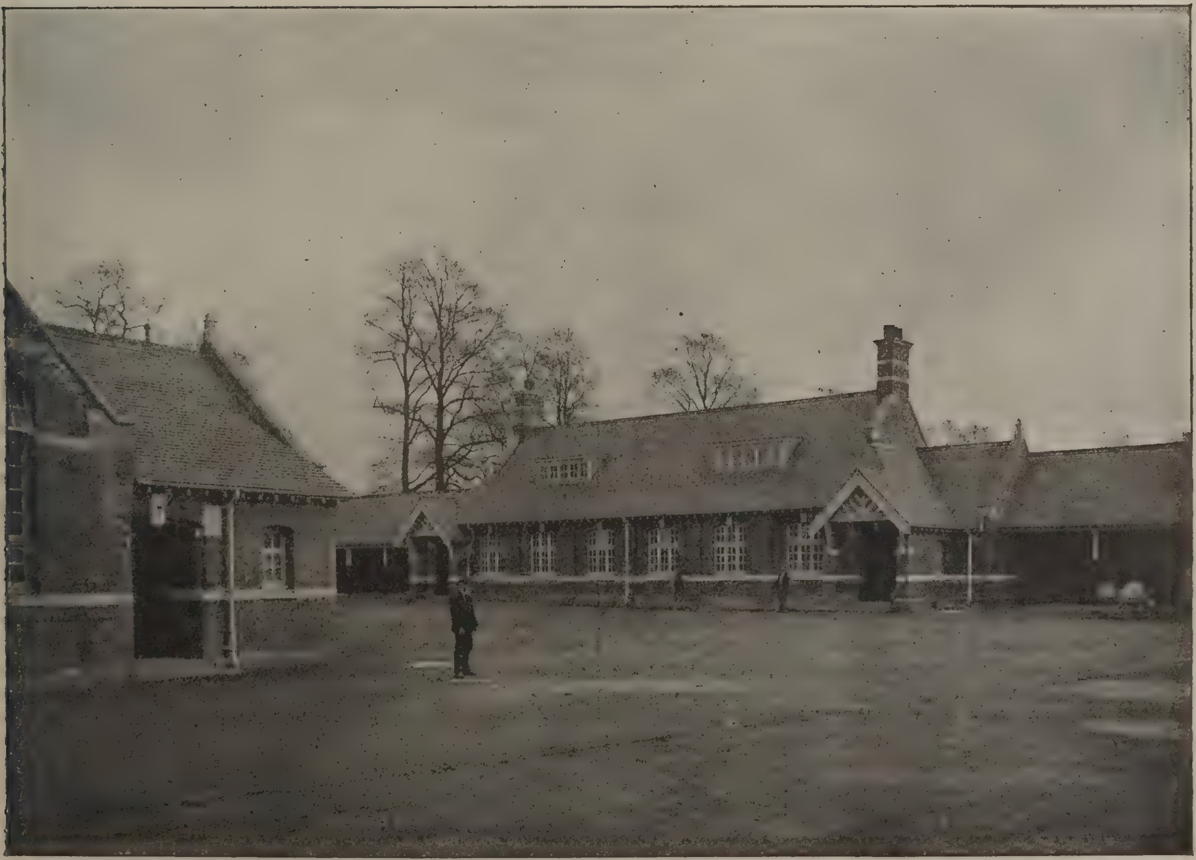
A MEETING was held at the Royal Academy on Monday to consider the memorial to the London County Council in favour of the scheme of the Further Strand improvement committee. Mr. Mark H. Judge, the hon. secretary, referred to the offer of a ground rent of 55,000*l.* a year, which had been made by a syndicate for the middle block between Aldwych and the Strand. To accept that offer as it stood would make it impossible to carry out the plan of the Further Strand improvement committee, as it was necessary to set back the crescent facing the church of St. Mary and reduce the length of the middle block if the eastern projection into the Strand was to be set back the 60 feet required to give the Strand its natural course direct to and from the Courts of Justice. The executive committee considered that the improvement advocated was necessary, and that it would, therefore, be superfluous to deal with figures in the memorial. A sacrifice, they admitted, might have to be made, but against that sacrifice the following clear gains would accrue: a direct roadway connecting the West End with the City, instead of a serpentine course dangerous to traffic; an island pavement



PLAN OF SCHOOLS.



COOKERY AND LAUNDRY SCHOOL.



GENERAL VIEW FROM THE NORTH-EAST. [*Walter B. Wood, Architect.*

forming an oasis (with trees, &c.) of about 12,560 square feet—the area of the building land that they asked might be surrendered—in the busiest thoroughfare of the Metropolis midway between St. Paul's and Trafalgar Square; an increase in the value of the building land facing the greatly improved thoroughfare; an early cancelling of the great annual loss resulting from the building land remaining vacant.

Sir E. Poynter, P.R.A., said that the County Council had been approached three times with memorials in favour of a plan by which this unique opportunity for carrying out a dignified architectural scheme worthy of London should not be thrown away, and the memorials had received but scant attention from those to whom they were addressed. It therefore seemed right to the Royal Academy to take the matter up as one deserving of its attention as a corporate body. The memorial was unanimously adopted as an expression of the views of the Royal Academy and was signed by all the members. Later on the Council of the Royal Academy without hesitation adopted his suggestion that a meeting should be held in the Academy itself, to which all those who had signed the memorial should be invited. This was one of those exceptional occasions when questions of economy might be rightly subordinated to higher considerations and must be set aside when such an opportunity occurred as the present. The County Council has invited the opinion of the public by staking out two courses which the new road might follow; the strange thing was that when the public expressed so marked a preference for the direct alignment they should have adopted the other. They would almost appear to have gone out of their way to spoil their original idea of a symmetrical arrangement in crescent form with a straight frontage to the Strand.

Lord Plymouth moved:—"That, in the opinion of this meeting, the memorial of the Further Strand improvement committee, the Royal Academy of Arts and other corporate bodies makes a clear case against the plan adopted for the building land between Aldwych and the Strand, and that the London County Council be requested to receive a deputation charged with the duty of presenting the memorial."

Mr. Harold Cox, M.P., seconded the motion.

Mr. Frederic Harrison, who was chairman of the improvements committee of the Council when the original scheme of the Strand improvement was planned, supported the resolution.

Sir Aston Webb, R.A., said that the Royal Institute of British Architects felt very strongly that a great mistake would be committed if some alteration were not made in the alignment proposed. All his brother architects felt, as he did, that they could not appeal too strongly to the London County Council to make some alteration in the line and give London a magnificent thoroughfare from Charing Cross to St. Paul's Cathedral.

Sir W. Richmond, R.A., said that the County Council should appoint a small but thoroughly representative art standing committee through whose hands all metropolitan schemes must pass.

Mr. Hamo Thornycroft, R.A., said that he was the first to bring this question forward. It was not too late to remedy the error which had been made.

The resolution was then adopted unanimously.

A vote of thanks was passed to the President and Council of the Royal Academy for the support they had given to the Further Strand improvement committee.

AN ENGINEER'S CLAIM.

During several years Mr. William Mackison, F.R.I.B.A., has filled the office of burgh surveyor in Dundee, and as such has been the leading authority on building. In 1868 he received from the Commissioners of Police the appointment of "surveyor of police and sanitary inspector," with a salary of 400*l.* a year. Of that sum 100*l.* was to be considered as payment to him as sanitary inspector. Recently it was proposed in the Town Council "that the town clerk be instructed to conduct an inquiry into all the circumstances concerning the management of the burgh engineer's establishment, with special reference to that official's alleged total incapacity for the performance of his duties, and to report fully on what work the burgh engineer had remitted to him at any time which he failed to carry out, and also on any piece of work which was not submitted to him but placed directly in the hands of subordinate officials, mentioning the dates in each case." It was afterwards suggested that Mr. Mackison should retire from the office of burgh engineer and accept 250*l.* a year as consulting engineer. The Trades Council, who are a power in Dundee, opposed the arrangement. A special committee to deal with the matter was appointed.

Mr. Mackison, on the other hand, stated that he had no intention of retiring from his position, inasmuch as he felt himself quite fit for the work, and that, in any event, before considering any proposal involving his superannuation, he desired to have settled the claim that he had against the Council for services other than those of his official duties. The special committee stated that they had no knowledge of any claim, which they declined to recognise in any way. Mr. Mackison was asked to furnish particulars, which were duly sent to the town clerk with the following letter:—

8 Constitution Terrace, Dundee: March 16, 1906.

Dear Sir,—In compliance with the request of the Town Council, I send you a memorandum of the parliamentary, engineering and other work executed by me outside of the duties of my office of burgh surveyor. As the Town Council are aware, that work was performed by me on their instructions, and on the understanding that I should receive suitable remuneration for it. Particulars of my fees for some of the earlier work were at their request prepared by me and submitted to the Council, and these have from time to time been under consideration of committees. The attention of the Council was also from time to time called to them by the late town clerk, but the matter was allowed to lie over from year to year, while the continuous nature of the work did not afford a convenient occasion for closing the account. Looking to the long delay that has occurred in the settlement, I trust that the Town Council will now see their way to take the matter up at an early date.

On the perusal of the memorandum it will be seen that the works carried out by me are large in extent and varied in character. In other cities, where similar works have been carried out by outside engineers, large sums have been paid in professional fees, based usually upon a percentage of the cost. I believe, after a settlement of my charges, it will be found that it has been a great advantage—from the point of view of cost, time and efficiency—that these works, in the case of Dundee, have been carried out under my direction, instead of under that of an outside engineer.

I believe, as I stated in the memorandum, that the information it contains will be sufficient, in the meantime, to enable the Town Council to judge of the general character of my claim and how best to have it adjusted. If agreeable to the Council, I am willing to have the amount to which I am entitled fixed by a reference to a neutral engineer, or, if they prefer, to have it settled by a friendly action in Court.

I have only to add that, considering my connection of nearly forty years with the municipality of Dundee, I sincerely trust that the friendly intercourse I have enjoyed in the past and the great pleasure I have had in doing the work of the city—to which I have devoted my time and best energies, not only during the usual working hours of the day, but for long periods, almost continuously, at other hours, both early morning and late at night—and which pleasure has been greatly enhanced by the knowledge that I have held, continuously and unbroken, the full confidence of the community and their representatives, may not now be marred by any unpleasantness in arriving at a just settlement, and that a fair and equitable arrangement, satisfactory to both parties, may be come to soon.—Yours faithfully,
Wm. Mackison.

A meeting of the works committee will be held next week to consider and determine upon the matter.

According to the *Dundee Advertiser*, to which we are indebted for the foregoing information, the statement on which Mr. William Mackison bases his claim for remuneration for extra services rendered is a lengthy document, extending to no fewer than forty-eight pages. To any one undertaking the task of writing the history of municipal enterprise in the city since 1868—the year when Mr. Mackison was appointed—the document would prove of great value, as it contains details of nearly every work of importance undertaken by the Corporation during the intervening thirty-eight years. He points out that in 1868 the population of Dundee was 90,000 and that now it is 160,000, and enters in detail into the circumstances surrounding the water engineership of the city. When the late Mr. Duncan left the service, soon after the water concern was acquired by the Corporation, Mr. Mackison was appointed water manager and engineer in addition to burgh surveyor. This position, however, he held for only twenty-one months, when Mr. Watson, now of Bradford, was selected to look after the water department. Notes are given in the statement as to the increases of salary which were voted to Mr. Watson, and also as regarding the honorariums which were paid to that official for special services rendered. Mr. Mackison does not specify on any sum to which he thinks he is entitled, but claims that he should be paid specially for services in promoting the Improvement Bill of 1871 and work after it had become law, special mention being made of the elevations he prepared for Commercial Street buildings; for the erection of the markets and slaughter-houses and all the district baths and washhouses; the construction of the esplanade west of the Tay Bridge; laying-out Magdalen Green, Barrack Park and the Albert Institute grounds, several new streets, and the reconstruction of the tramways; his labours connected with the projected scheme for a cable tramway up Constitution Road, and the erection of tramway shelters. Mr. Mackison gives the total cost of the work in each case. He further asserts that he was appointed sanitary inspector at a salary of 100 guineas per annum, and that the Corporation owe him 100*l.* a year for many years in this connection.

Mr. Mackison expresses his willingness to refer the whole matter to an arbiter mutually chosen, or to agree to a friendly action in the Court of Session. The statement will be submitted to an early meeting of the special committee appointed recently to deal with the whole case of the burgh engineer's appointment, the committee consisting of the whole of the members of the works committee, with Messrs. Brownlee, Gordon, Stevenson and Soutar added. This committee, it is understood, will conduct the inquiry which the Council instructed should be held, in order to be able to report the result of their deliberations before the date specified, viz. March 29.

THE TRIBUNAL OF APPEAL.

In the report of the Building Act committee of the London County Council is the following statement respecting an application for increase of fees from the members of the Tribunal of Appeal:—

We have had under consideration a letter from the Home Secretary forwarding, for the observations of the Council, a copy of a letter received from the members of the Tribunal of Appeal constituted under Section 175 of the London Building Act, 1894, asking that the rate of remuneration granted to them in respect of their services may be increased. In accordance with the terms of Section 179 of the Act, the Home Secretary in 1894 decided that the members of the Tribunal should be paid by fees, and fixed the amount of the fees at three guineas for the first hour and two guineas for each subsequent hour of each day's sitting of the Tribunal, and in 1895 it was laid down that such remuneration was limited to the sitting of the Tribunal in its judicial capacity. The amount of the fees then fixed has remained unchanged up to the present.

The members of the Tribunal ask that the rate of remuneration may be increased to five guineas for the first hour and three guineas for each subsequent hour or part of an hour, and that each member should receive a minimum fee of twelve guineas in respect of each appeal when an appointment has been fixed, whether the case is argued before the Tribunal or not, and further that such fees should be paid whether the members of the Tribunal are acting judicially or not, provided they are employed in the work of the Tribunal.

It is stated that the maximum amount earned by any member of the Tribunal during the ten years 1895-1904 inclusive was 940*l.* 16*s.*, which was paid in respect of 103 appeals, five of which were settled without being heard, and the average amount received in respect of the ninety-eight sittings of an average duration of rather less than four hours was thus 9*l.* 12*s.* This amount appears to us to be sufficient, even if the members are prevented from making professional appointments on the days fixed for the hearing of appeals.

The increased number of appeals which may be made under the London Building Acts (Amendment) Act, 1905, is advanced by the members of the Tribunal as one reason why the rate of remuneration should be increased. It is, of course, impossible at the present time to form any opinion as to what the number of appeals under the new Act may be, but we are of opinion that, should the number be large, it would probably be found advisable for the Tribunal to sit at stated intervals, and if necessary to continue the sittings from day to day until all the cases then before them had been settled. Should this be the case, and assuming that the sittings lasted six hours each day, the average remuneration for each member would be about thirteen guineas, and we are, therefore, strengthened in our opinion that the present scale of fees is adequate.

We would point out that the whole of the expenses of the Tribunal of Appeal, including the fees in question, are payable by the Council, which also receives the fees paid by the parties to appeals. The net annual expenditure in respect of the Tribunal since its constitution in 1894 has been as follows:—

1894-5	£40	3	4	1900-1	£547	10	8
1895-6	805	19	7	1901-2	770	10	4
1896-7	621	4	3	1902-3	734	15	9
1897-8	592	2	1	1903-4	707	3	10
1898-9	612	3	6	1904-5	544	15	9
1899-1900	593	1	3				

We recommend:—"That the Secretary of State for the Home Department be informed that the Council is of opinion that the present rate of remuneration of members of the Tribunal of Appeal, constituted under Section 175 of the London Building Act, 1894, is sufficient, and that no adequate reason is shown why it should be increased."

CANTERBURY CATHEDRAL LIBRARY.

A MEETING of the Bibliographical Society was held on Monday, when Mr. M. Beazeley read a paper on "The History of the Chapter Library of Canterbury Cathedral." After acknowledging his indebtedness to Dr. James and other writers on the subject, he said there was no doubt that a commencement was made with the books sent by Pope Gregory to St. Augustine. Archbishop Theodore brought many MSS. from the East, including classical works, though the Homer attributed to him by Parker was written on a material unknown in his time. There were only a few fragments existing of anything previous to the Norman Conquest. Much was destroyed by the Danes, and more by a later disastrous fire. Lanfranc began to rebuild the cathedral, but although he drew up rules for the library he did not provide a special building for it. It was arranged in the rules that the precentor was to be librarian "if he were an educated man." Lanfranc, Anselm and their successors no doubt added considerably to the library, but, unfortunately, there was no catalogue. In Becket's time there were probably 600 or 700 books, and bequests were made for the support of the library in 1285 and 1313. From a list of the fourteenth century it appeared that there were a large number not only of theological and patristic works, but scientific and classical, Ovid being especially well represented. There was also the original charter which settled the precedence of the Primates of Canterbury and York, attested by the signatures of William the Conqueror and his queen, represented by crosses. In 1337 an inspection of the library showed that the privilege of using the library was not confined to the monks, and seventy-four volumes were reported missing, including seventeen lent to "seculars." Prior Chillenden, who died in 1411, bequeathed many books to the new library which had been built by Archbishop Chicheley in 1396 over the prior's chapel. In 1432 the Chapter recorded its high appreciation of the library and its furnishing. In 1538 a fire which broke out in an adjoining building destroyed the collections of Theodore and Chicheley. The library suffered greatly in later years by the depredations of Archbishops Parker and Whitgift and Dean Nevill, and still later in the time of the Great Rebellion. In 1670 there were enough books to catalogue, and a librarian was appointed at a salary of 7*l.* a year, for whose guidance a fresh set of rules was framed for the first time since Lanfranc's. The library was first thrown open to the public in 1840, and a new building was erected in 1868. The latest list of works gave the number as 12,115.

Dr. James J. Dobbie, in his report on the Royal Scottish Museum for the year 1905, says that the number of visitors to the museum was considerably in excess of the average of the previous five years. The large attendance on Sunday afternoons, when the collections are open for three hours, shows how greatly even this limited privilege is appreciated by the public. It is stated that the Sunday visitors evince an unmistakable interest in the contents of the museum.

ALDWYCH CRESCENT.

THE improvements committee of the London County Council announce the consideration of a proposal for a lease for ninety-nine years, at a rent of 55,000*l.* a year, of the central portion of the crescent site formed in connection with the Holborn to Strand improvement. The site has an area of about 123,350 square feet, and lies between Aldwych and the Strand, being bounded on the east and west by the 50 feet approaches which it is proposed to form between the Strand and Aldwych. It has frontages of about 636 feet to Aldwych, about 413 feet to the Strand, about 236 feet to the approach on the west side of the site and about 231 feet to that on the east side. The proposal has been made by Mr. L. Wormser on behalf of a syndicate who have prepared a scheme for developing the site as a whole. A company is to be formed for this object with a capital of 1,000,000*l.*, and arrangements have been made for underwriting nearly the whole of this amount. From inquiries made through the Council's bankers, it appears that the necessary capital will be forthcoming, and that the financial position of the underwriters justifies the Council in favourably considering the present offer.

It is proposed to erect on the central portion of the site a stone building of commanding architectural features. This building will contain large galleries for use in connection with a permanent exhibition of arts and manufactures; it will also contain a theatre, a concert hall and a restaurant. Beyond the central block of buildings the site will be enclosed by shops with basements, ground floors and two floors above. There will be seventy-eight shops on the ground floor and seventy-eight on the first floor, while the second floor will be let for commercial purposes. The promoters have undertaken to spend not less than 500,000*l.* in the erection of these buildings. They state that negotiations have already been commenced for letting portions of the buildings, and that they have no doubt as to the disposal of the whole to substantial tenants. There will be no larger area between the shops and the central building than that which is necessary to provide for the access of light and air. The plans, elevations and specifications of all the buildings will be entirely subject to the Council's approval.

The lease will be in the Council's usual form, subject to such modifications as may be necessary for the special undertaking, and will give the Council entire control as to the uses to which the buildings will be put, and also the right of re-entry if the buildings are put to any other use than that sanctioned when the lease is taken up.

One year's ground rent (55,000*l.*) will be paid as a deposit upon the signing of the building agreement; this deposit will be forfeited if the lease be not taken up, so that the Council's interests are adequately safeguarded. The promoters propose that the first year's rent shall be a peppercorn, and that the rent for the second and third years shall be at the rate of 27,500*l.* a year.

The recommendation was accepted by the County Council on Tuesday.

GENERAL.

Mr. L. F. Vernon-Harcourt has received the title of Emeritus Professor of Civil Engineering and Surveying from the Council of London University. Mr. Vernon-Harcourt occupied the chair of Civil Engineering at University College for twenty-three years.

Mr. W. E. Bush, borough engineer and surveyor of Sudbury, Suffolk, has been appointed city engineer of Auckland, New Zealand, at a salary of 1,000*l.* per annum.

A Memorial to the late Mr. Alfred Waterhouse, R.A., of Yattendon Court, is contemplated in the parish of Yattendon, where the architect spent the closing years of his life. The form which the memorial will take has not been yet decided.

Mr. F. P. Oakley, architect, has prepared a scheme for the restoration of Tarven Church, Cheshire, at a cost of over 2,000*l.* In the fourteenth century what now constitutes the south aisle and Bruen chapel was built, and some of its architecture, including the valuable screen, remain to this day. From 1400 to 1500 the nave, north aisle and tower were built. The chancel was probably rebuilt in 1700.

The Photographic Survey and Record Society of Surrey held their annual meeting at Kingston. According to the report 697 photographic prints were received during the year, as against 660 in 1904. Five exhibitions of a successful kind were held during the year. In the architectural section the Society received 307 prints and these were of a very excellent kind.

The Court of Common Council last week decided that with a view to restoring the Guildhall to its original beauty and impressiveness, it be referred to the City Lands committee to consider and report on the desirability of removing from the walls and columns of the interior of the hall the plaster or stucco with which they have been encrusted or disfigured.

The British Museum is to be equipped with new lightning-conductors at an outlay of 450*l.* There will be other improvements undertaken shortly, including a new ceiling-light to be introduced into the Etruscan saloon.

The Society of Architects are to visit the new Sessions House, Old Bailey, on Saturday, the 24th inst.

The Council of the Liverpool University have decided to establish a chair of classical archæology for three years, with the help of a guarantee fund. There is reason to hope that the chair may be set on a permanent footing before the three years have expired. The Council have elected to the professorship Mr. Robert Carr Bosanquet. Mr. Bosanquet, who held the Craven studentship of the University of Cambridge for two years after taking his degree in 1894, has for the last six years been director of the British School at Athens. One of the conditions of his appointment is that he shall have leave of absence for at least one term in the year, to enable him to conduct practical research work and so to keep in touch with the explorations that have added so largely to our knowledge of antiquity in recent years.

The Sutton Coldfield Education Committee considered twelve sets of competitive plans for the proposed new schools in Victoria Road, Reddicap Heath and Green Lanes. It was agreed that those of Messrs. Crouch, Butler & R. Savage should be accepted subject to certain modifications.

A Meeting will be held on the 30th inst. at the Jehanghir Hall of the University of London, South Kensington, to make arrangements for the International Congress on School Hygiene, which is to take place in London from August 5 to August 10.

Mr. John Mackay, of Reay House, Bodenham Road, Hereford, who died on February 5, civil engineer, left estate valued at 31,663*l.* gross, with net personalty 29,313*l.* He bequeathed an annuity of 45*l.* to the Educational Association of Rogart for scholarships of 25*l.* and 20*l.* respectively.

Professor Flinders Petrie has stated that he intends to send to the Chief Rabbi (Dr. Adler), for presentation to one of the London synagogues, the marble shaft of a pillar found on the site of the Temple of Onias, as the result of excavations by the British School of Archæology in Egypt.

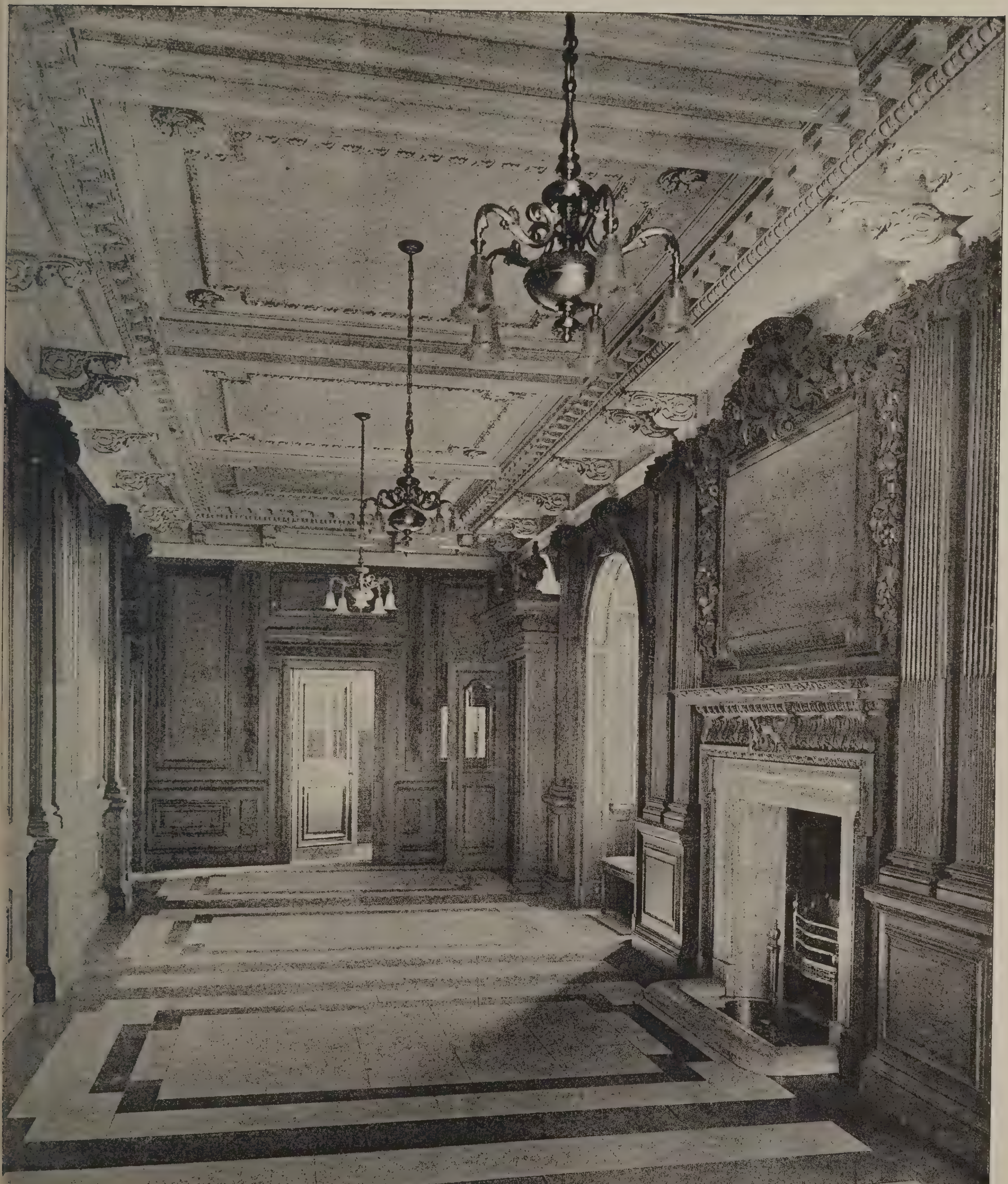
Messrs. J. B. & W. Thornley, architects, Wigan, have received the first premium of 40*l.* in the competition for a free library at Wigan. The second premium of 20*l.* has been awarded to Messrs. Heaton, Ralph & Heaton.

Mr. C. F. Corbould-Ellis, chairman of the library and art committee of the Corporation of London, has been appointed a member of the British Commission for the Milan International Exhibition, 1906.

A Change is announced in the hours of admission to Glasgow Cathedral on week days. The hours formerly indicated on the notice board at the entrance to the cathedral were:—"From March 1 to October 31, 10 A.M. to 6 P.M.; from November 1 to February 28, 10 A.M. to 4 P.M." The hours now shown on the notice board are:—"From April 1 to September 30, 10 A.M. to 6 P.M.; from October 1 to March 31, 10 A.M. to 4 P.M." The change has been made on account of the frequent want of daylight in many portions of the building between 4 and 6 P.M. during the months of March and October, and the risk of accidents to visitors through darkness on stairs, &c., during these months.

The Middlesbrough Town Council having decided to oppose the scheme for building a transporter bridge across the Tees, the Transporter Syndicate offered to pay the Corporation 1,250*l.* for five years, and 10 per cent. of the gross takings afterwards, or, in the alternative, 10 per cent. of the gross takings from the opening of the bridge. The offer came before the Council last week, when the following resolution was passed:—"The Corporation respectfully decline to accept the offer made by the promoters, but would not be indisposed to negotiate with them on the basis of the Corporation being the owners of the bridge and the tramways on the south side, and to co-operate with them in the scheme they have foreshadowed in the order deposited."

The Royal Scottish Academy on Wednesday elected three Associates, viz. Mr. R. M. G. Coventry, of Glasgow, painter; Mr. Percy Portsmouth, Edinburgh, sculptor; and Mr. James Miller, Glasgow, architect.



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NEW OFFICES OF "THE SCOTSMAN," EDINBURGH: THE LOBBY.

JAMES B. DUNN, Architect.

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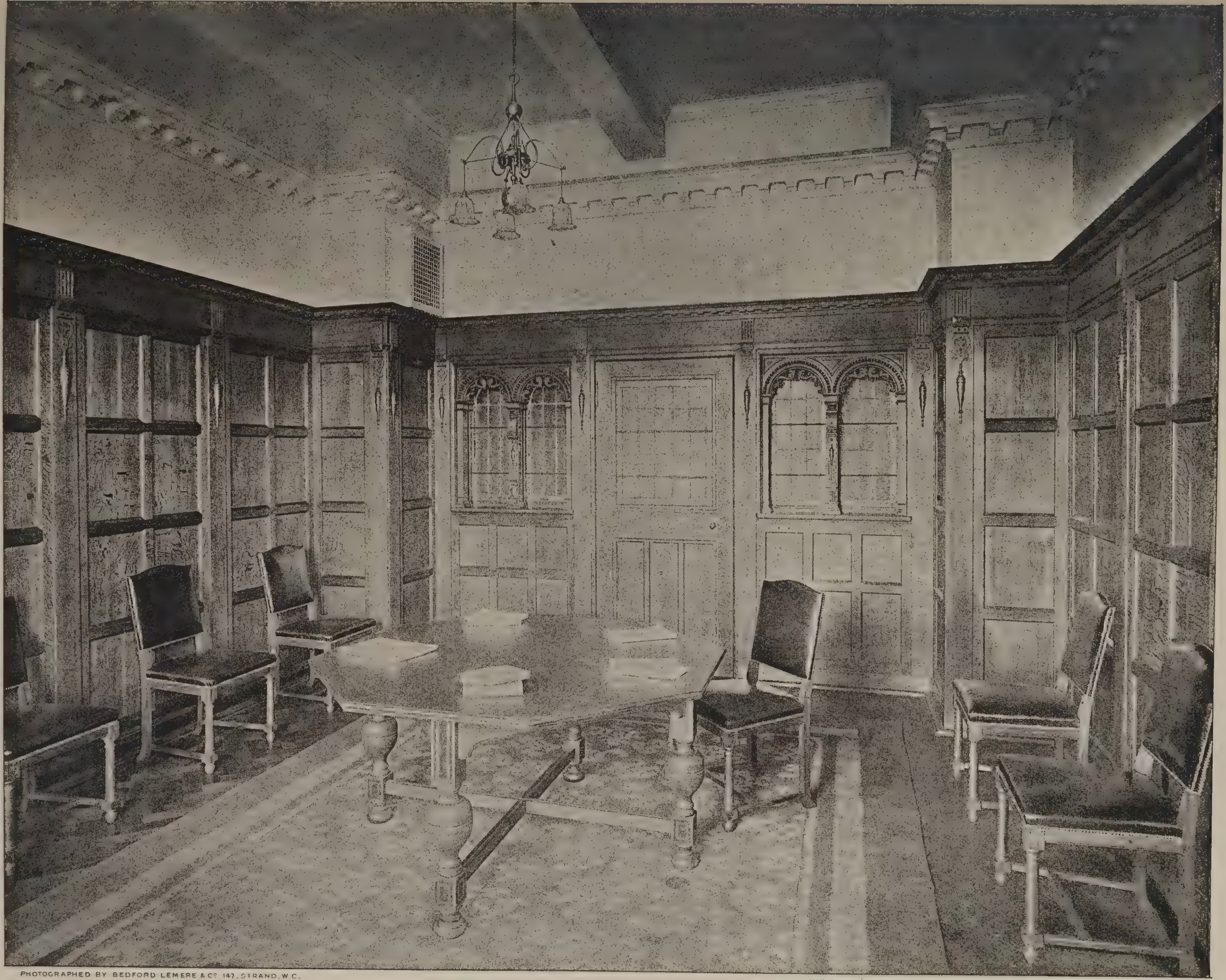

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NEW OFFICES OF "THE SCOTSMAN," EDINBURGH: RECEPTION ROOM

JAMES B. DUNN, Architect.

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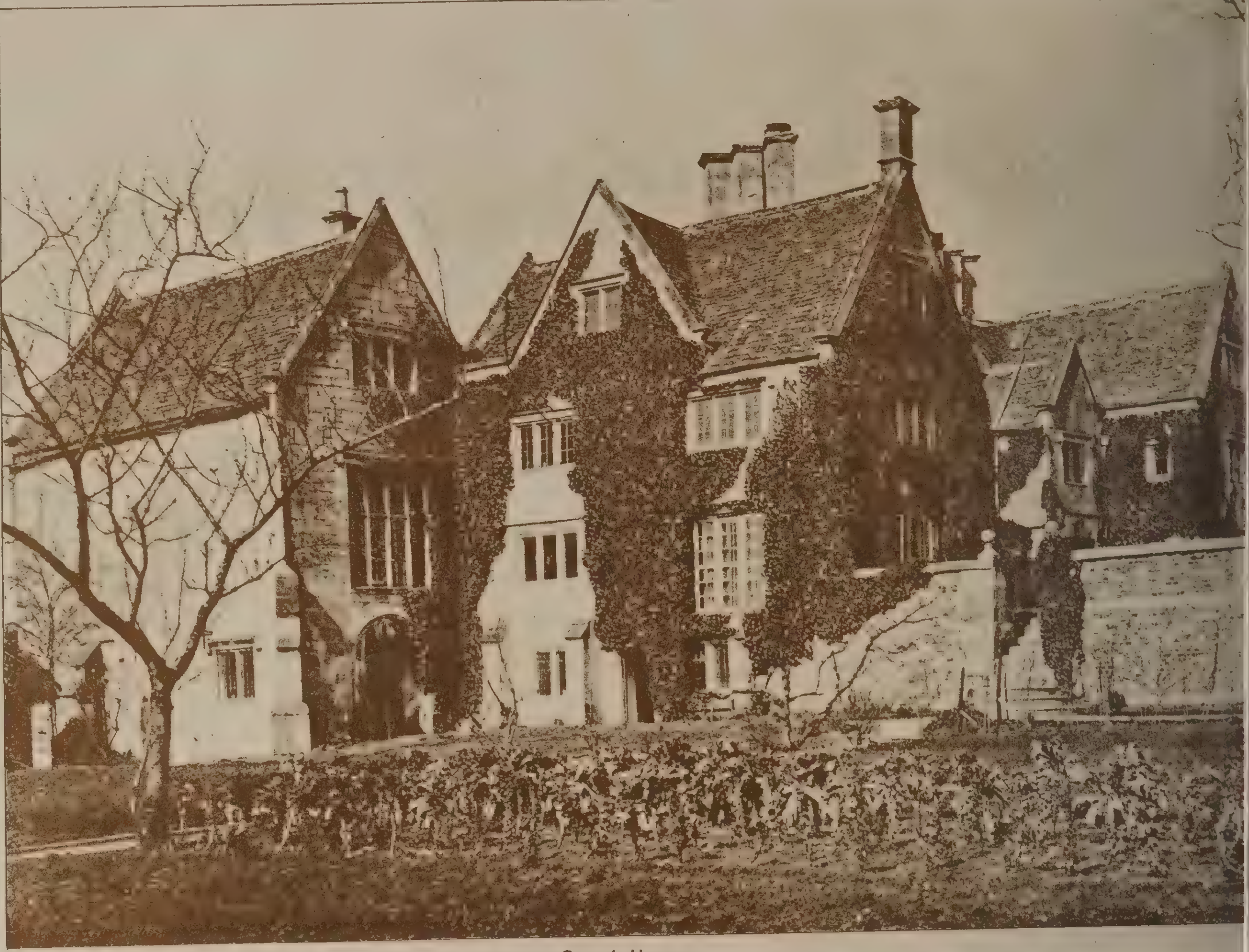
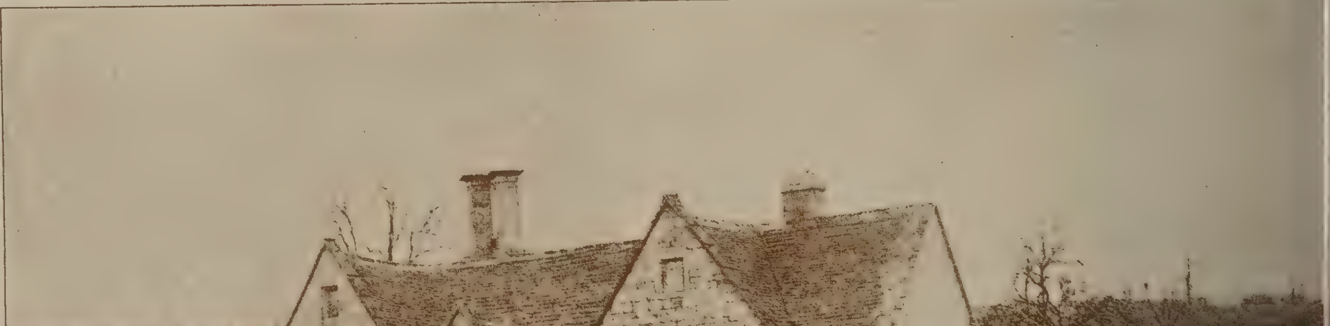
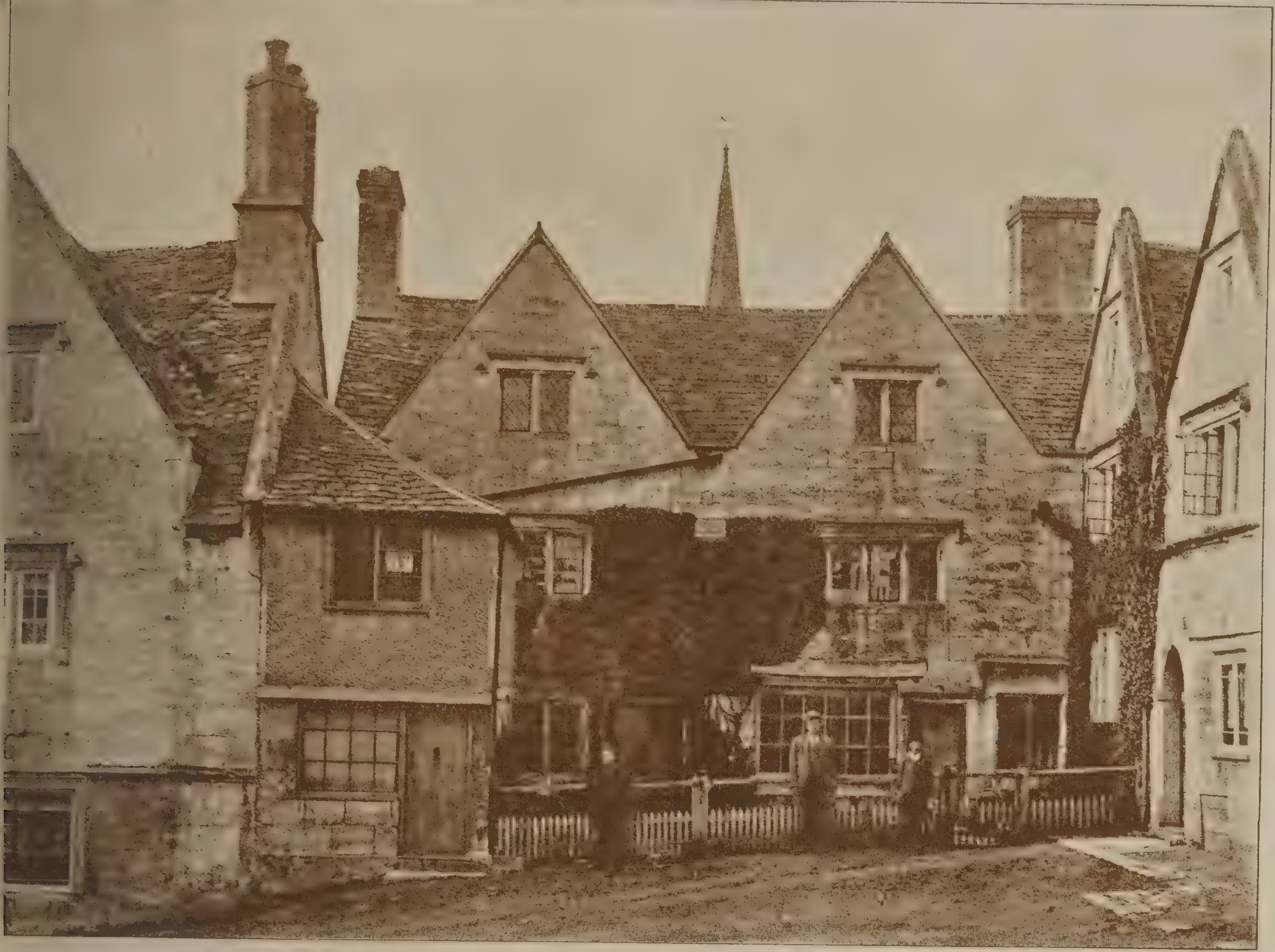


Court House.

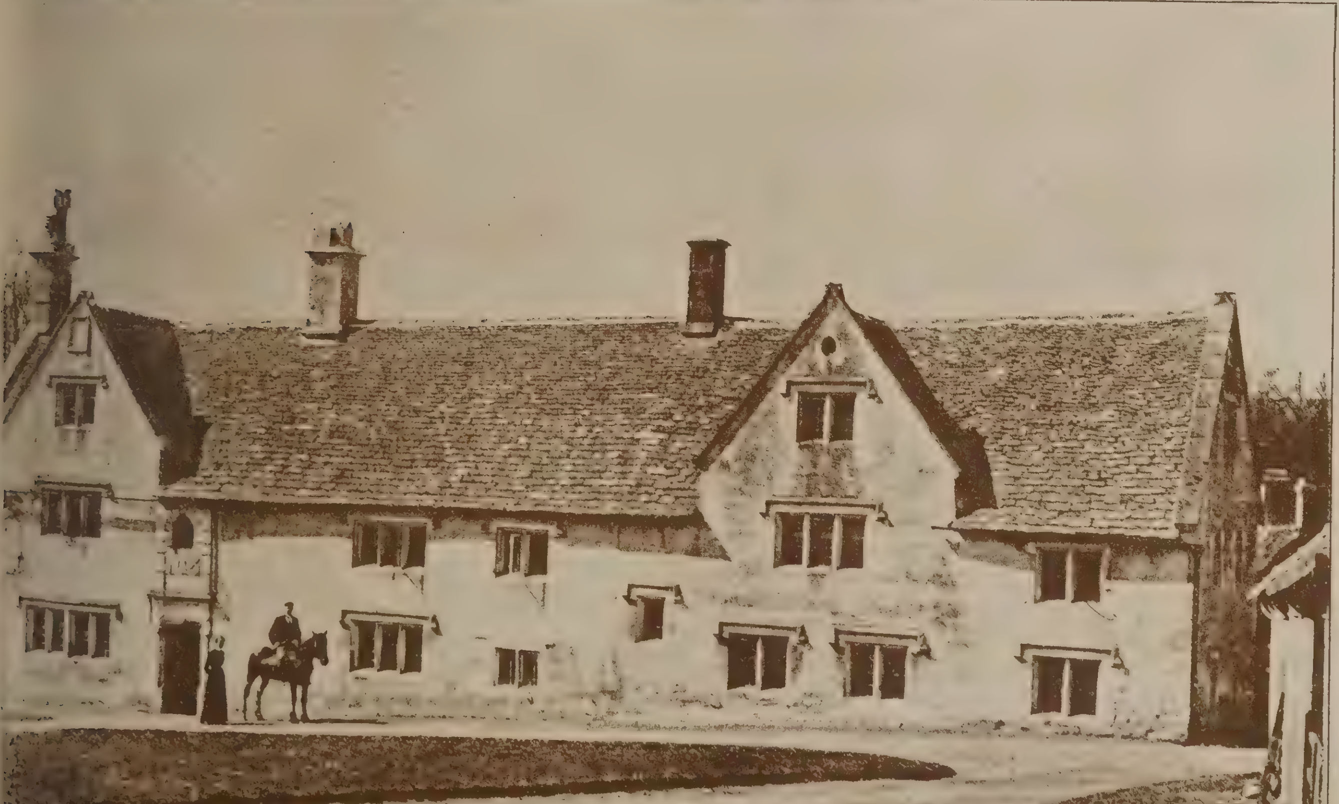


Holcombe House.

FROM PHOTOS BY MAX CLARKE F.R.I.B.A.



Bell Street.



Brown's Hill, Wick Street.

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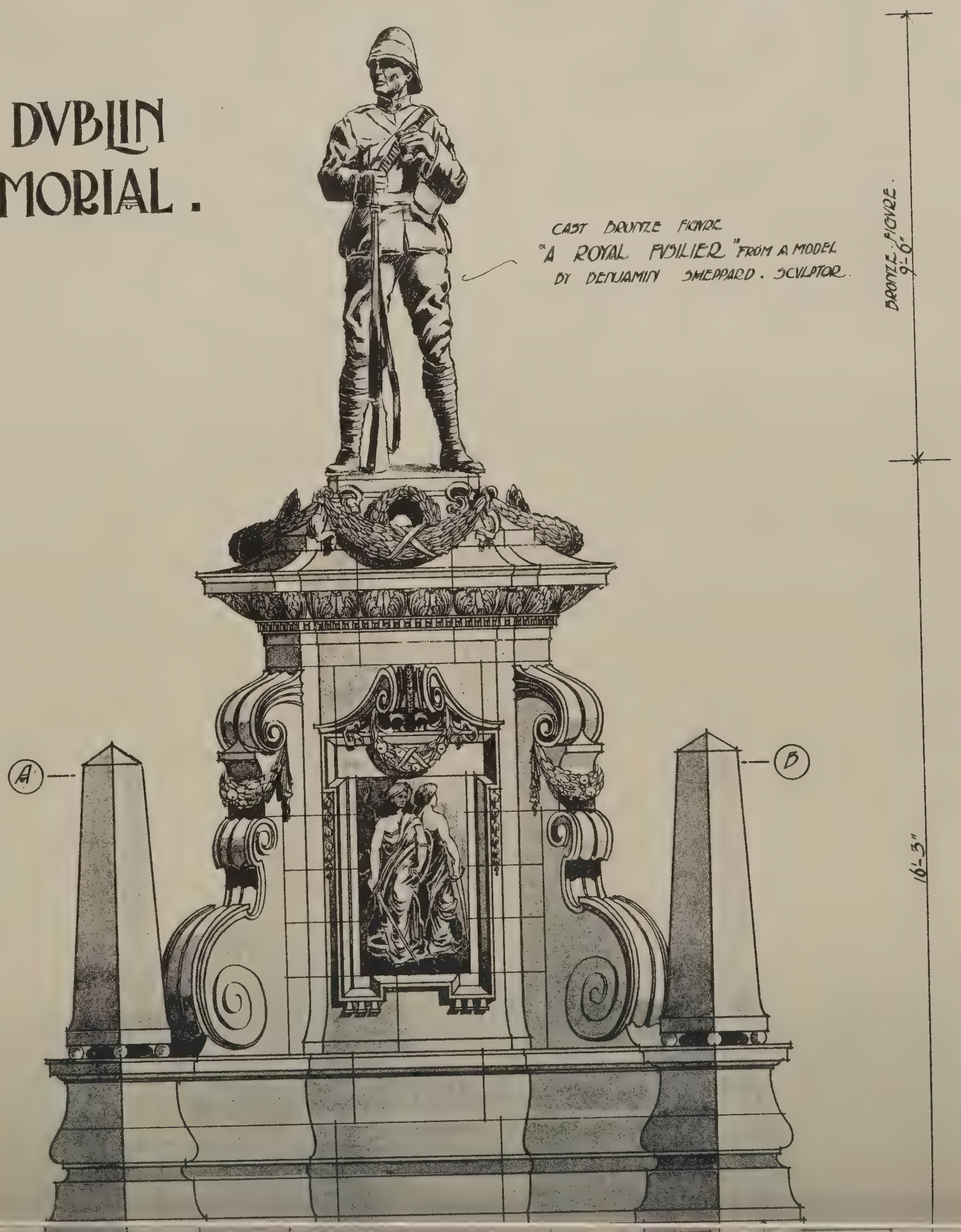
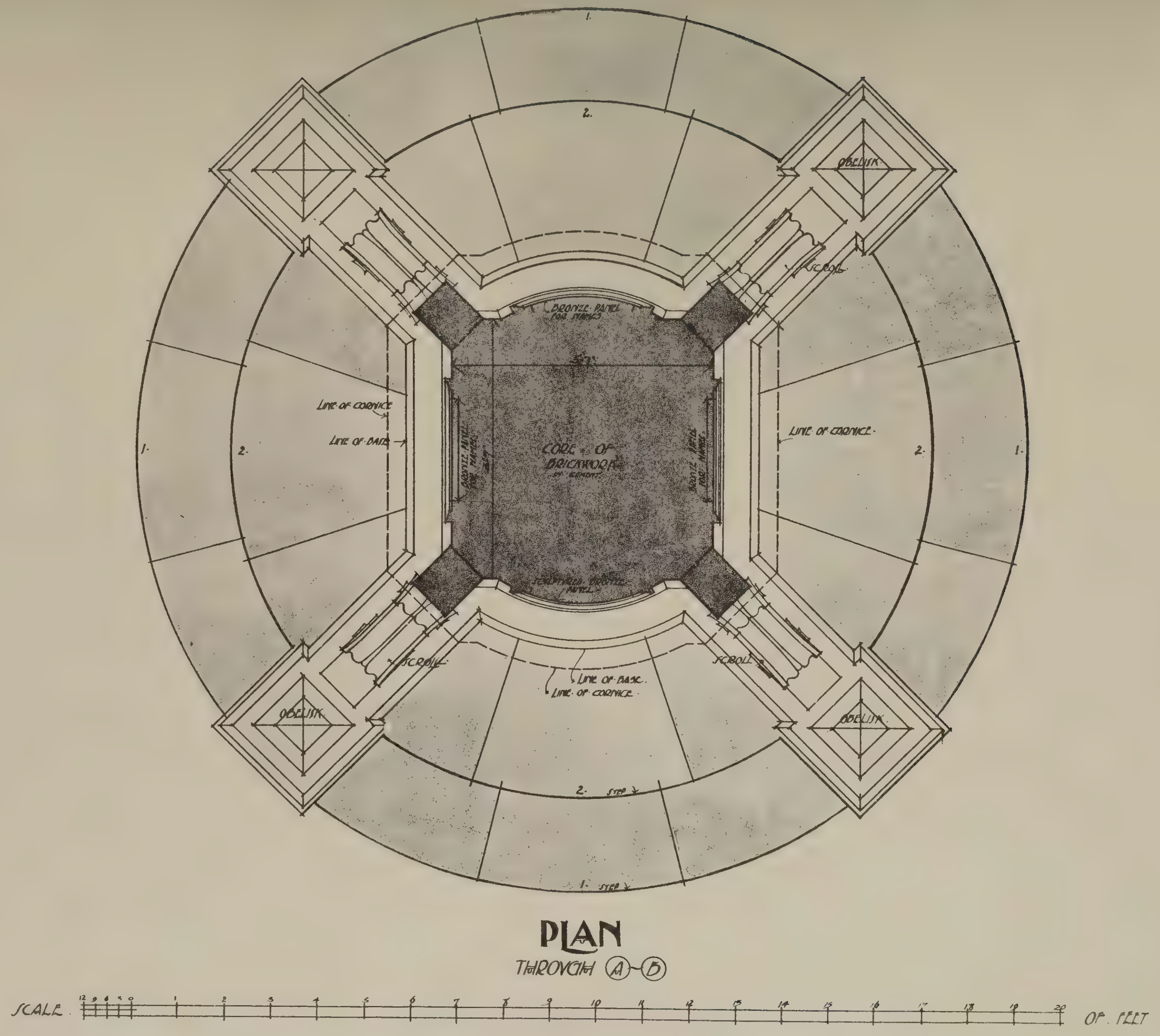
THE ROYAL DUBLIN FUSILIERS MEMORIAL.


CAST BRONZE FIGURE
"A ROYAL FUSILIER" FROM A MODEL
BY BENJAMIN SHEPPARD. SCULPTOR.
BRONZE FIGURE 9'-6"
16'-3"
A
B

ELEVATION

THIS ELEVATION WILL BE REPEATED ON EACH FACE — SEE PLAN AND NOTE AS TO BRONZE PANELS



PLAN

THROUGH Ⓐ-Ⓑ

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THE ROYAL DUBLIN FUSILIERS S. A. MEMORIAL.

Design submitted by H. P. BURKE DOWNING, F.R.I.B.A.

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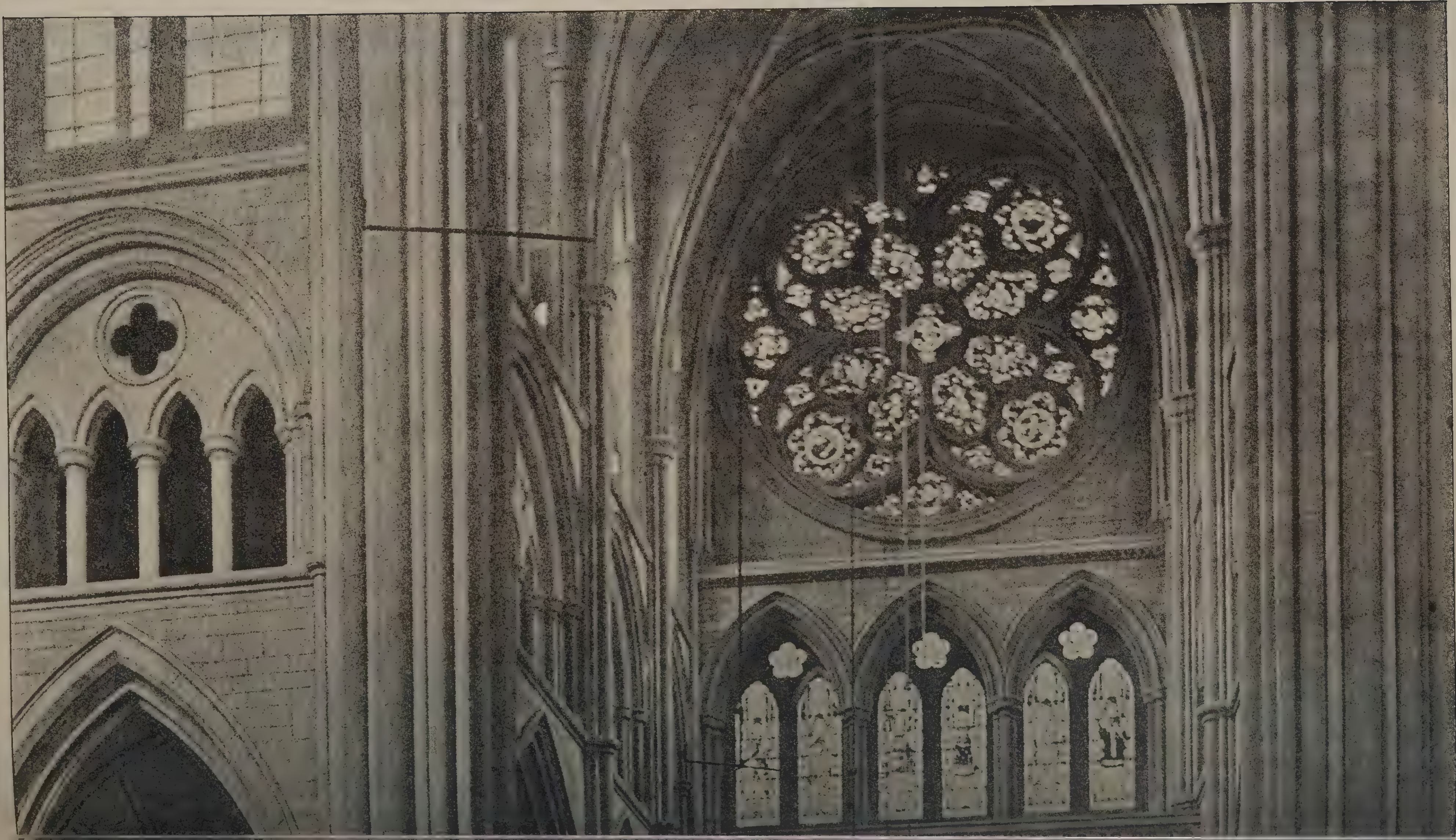

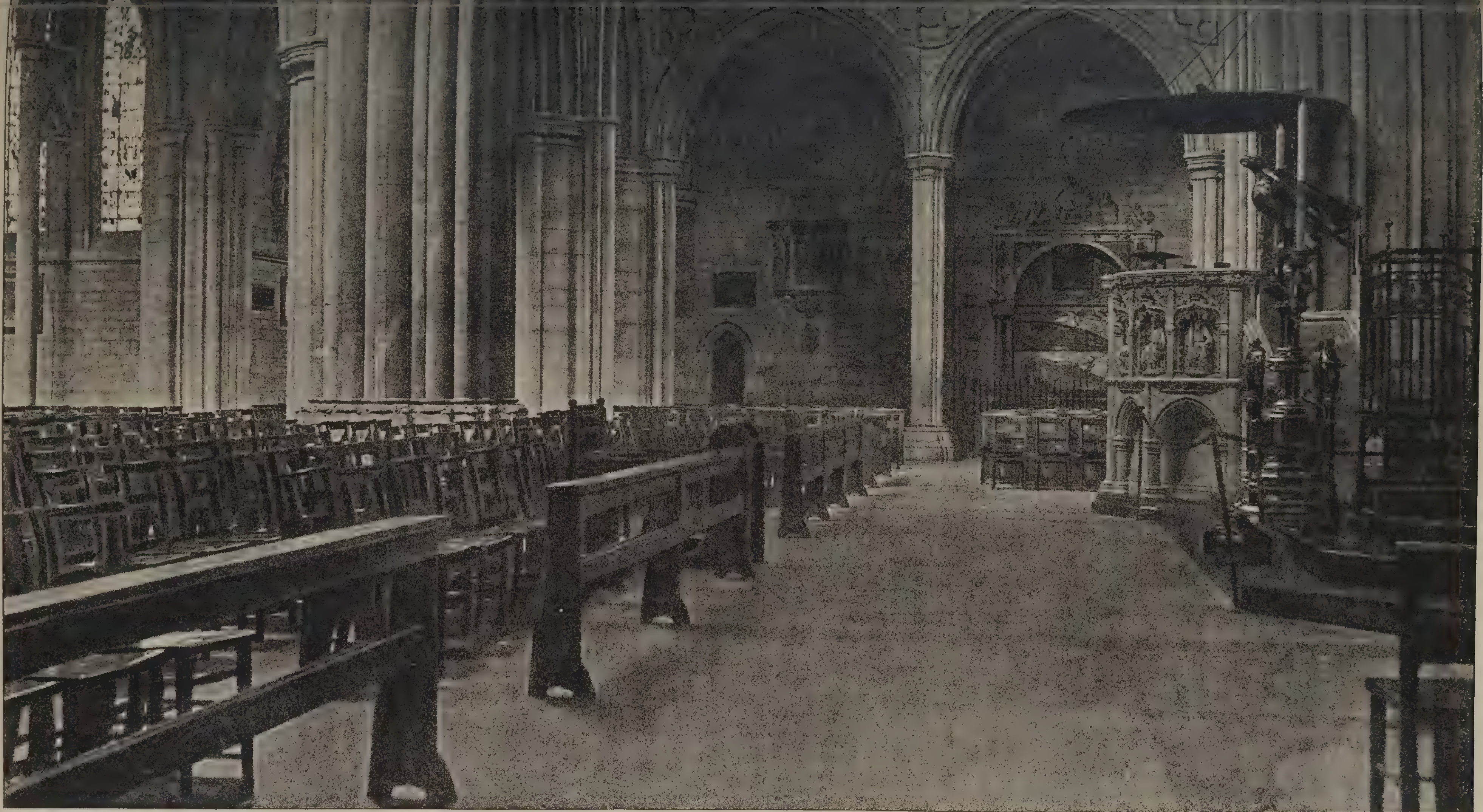

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CATHEDRAL SERIES, No. 555.—TRURO: VIEW OF NORTH TRANSEPT.

The late J. L. PEARSON, R.A., Architect.

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The Architect.

THE WEEK.

A PAINTER like the late EUGÈNE CARRIÈRE, who died in Paris on Tuesday morning, is not often produced by the most elaborate system of instruction, and French art has lost an unique representative. There could be no better proof of his ability than the praise awarded to him by EDMOND DE GONCOURT, who was not only fastidious, but also irreverent towards the majority of modern efforts. He described CARRIÈRE as a "VELASQUEZ crépusculaire," and the few words suggest the peculiarities of the painter. What was still more remarkable, as GONCOURT said, was his being "le peintre de l'allaitement," an office or duty not much respected by the artists of Paris. CARRIÈRE was, however, a painter of Parisian scenes, and he was fascinated by the crowds on the boulevards, but his representations were never as popular as those of M. BERAUD. Indeed, his vaporous tones seem better adapted for London scenes than for those in the French capital. He spent some months in London, but the "silence" terrified him, and for a long time he found a difficulty in earning any money. On the whole he was most successful with scenes in ordinary apartments, especially when introducing a number of children. He was born in 1849 at Gourney, but in his early years he lived in Strasburg. At the time of the Franco-German war he left the Ecole des Beaux-Arts with several other students to take a part in the fighting. He suffered imprisonment and then returned to Paris. He failed in the competition for the Prix de Rome. He was then thrown on his own resources, and it may be said that he had no other models than his wife and children. He never could be considered as a popular painter, but during his recent years he was able to secure a small but select number of fervent admirers.

WHEN BARRY undertook the alterations of the Privy Council Office, Board of Trade and Treasury at Whitehall, he had to deal with a building having a continuous skyline. In his design he imparted greater solidity by introducing an extra storey at each end. That arrangement was not without effect upon the late J. M. BRYDON in his design for the Government offices. Facing Whitehall, the building was slightly raised in the centre and at each end. But on the Charles Street front he introduced two structures recalling the clock towers of St. Paul's. They were imposing, but the effect of them diminished the light in the India and Local Government Board offices. The First Commissioner of Works explained to the House of Commons on Tuesday that after consultation with the architects of the Office of Works and the advisory committee, he decided that the towers on the Charles Street side are not to be carried out to the full height. It has not yet been arranged to what extent the front towards Great George Street will be modified. No decision can be given until the part of the building towards St. James's Park is more advanced.

THE claim which Mr. MACKISON, the burgh engineer, has sent to the Corporation of Dundee for special work amounts, it is believed, to more than 40,000*l.* It must, however, be remembered that he filled several offices. He was also parliamentary engineer for nearly all the works for which Acts had to be obtained. The account represents the work of a great many years. It may be doubted whether the Dundee Corporation would have been able to find an engineer of standing in Westminster who would carry out such a multiplicity of varied work for the same sum. If Mr. MACKISON had not been successful in the preparation of plans and estimates, and in the superintendence of operations, he would not have held office since 1868. The fact that the Corporation retained him for so lengthened a period is a testimony that his conduct of business worked smoothly and advantageously for Dundee. The claim was discussed at a special meeting of the Town Council on Monday. It was moved that the Council should repudiate all liability for remuneration in respect of overwork, and while willing to pay any money which may be due, they are not in a position to offer any sum by way of compromise, and can only settle the claim under a decree of the Courts. After a discussion thirteen members were in favour of repudiation of the claim, while ten were in favour of an amendment which proposed that the town clerk should be instructed to report on the subject. The result will no doubt be gratifying to the ratepayers, for both engineers and architects are popularly supposed to represent expenditure which is not always profitable. But whatever may be the result the case should be taken as a warning by officials, as well as by authorities, to avoid the procrastinating policy of seeking a favourable time for the settlement of accounts, which in the majority of instances never arises.

IT is not often we find such diversity of opinion as is expressed regarding the disposal of the Holborn town hall. It presents the appearance of having been erected when economy prevailed, for it cannot be said that much money was expended on ornamentation, yet the building cost 39,717*l.*, and, in addition, 18,000*l.* had to be paid for the site. A further sum of 16,000*l.* has been expended on the building. About a fifth of the cost remains unpaid. The hall is frequently hired for balls, but during the last five years it has entailed a loss on the ratepayers of Holborn borough of 1,965*l.* a year. The Mayor maintains that the town hall was never built with the idea of providing offices for a municipal body, and no matter how it was altered it would be impossible to carry on the administrative work of the borough within it. The Council consider that it is imperative to erect a new building in which accommodation for the whole of the staff can be obtained. It is remarkable that the Council have not fortified their opinion by calling in an independent architect. The present building does not seem to be adaptable, but it would have been wiser, in order to afford satisfaction, if some one who is acquainted with the planning of municipal buildings were to define the extent of what is feasible. One member of the Council went so far as to suggest that if the town hall had to be sold a price should be put on it by the Local Government Board. His suggestion is enough to show the variance which exists, and which is not favourable to economy.

THE Bill which was introduced this week by the Home Secretary for extending and consolidating the Workmen's Compensation Act is likely to be popular with builders on a small scale. Unless in cases where disease is caused by poisoning with lead, phosphorus, &c., employers whose workmen do not exceed five in number are proposed to be excluded from the operations of the Bill. Workmen are likely to object that employers of that class do not always possess scaffolding or plant which is perfectly sound, and in order to avoid the expense of setting up scaffolding the men are sometimes expected to take part in hazardous operations. The exemption will not satisfy building workmen and should be set aside. Sub-contractors, on the other hand, will grumble, for the workman and his advisers will not have to speculate about the party to be sued, and moreover, the general contractor or principal will have the right to indemnify himself against the sub-contractor. The Workmen's Compensation Act has unquestionably caused a large amount of suffering to men who have reached the fifties, for they are not in favour with the insurance societies. It is now proposed to deal with the evil by diminishing the rate of compensation for workmen who are over sixty. In practice it will be found that few men of that age will be in a position to claim compensation. If they are employed it is possible they will have to submit to a reduction of wages.

ARCHITECTS, ENGINEERS AND CONTRACTORS.

If we believe Viollet-le-Duc, some arrangement resembling the contract system was practised in Mediæval times. While in society there were ambitious kings, tyrannous lords and a suffering peasantry who were little better than slaves, a class of men appeared, he says, who were devoted to scientific building and who were able to attract to their service artisans of various classes, who were willing to submit to a discipline that was severe. In England almost to the eighteenth century it was sometimes difficult to discriminate between the builder and the architect. The combination of the two classes of work was occasionally exhibited at a much later time. Sir Charles Barry, for example, entered into a competition with other architects for the town hall at Birmingham. But they were all cut out by Joseph Hansom, who offered to construct the building and, as it were, to throw in the designs as if they had no independent value. The work was accomplished, and still serves for a variety of uses, although Hansom suffered loss through his enterprise. The perpetuation of the old arrangements might have had some advantages in an artistic sense. But convenience and economy dictated that there should be a separation, and that the designer was to be independent of the constructor.

The Mediæval buildings, and especially the churches, which are the most characteristic examples, required a great many years to pass before they could be considered as complete. Indeed, it sometimes happened that a noble building was never entirely finished. The architect, workmen and clergy might be anxious to see the fulfilment of their efforts, but financial and other obstacles were not easily overcome. Under those circumstances the architect, designer or master of works would hold a very close connection with his workmen, and would be glad to take advantage of any opportunity which offered for continuing operations, even if they were only limited in extent.

With modern works expedition is essential. A noteworthy case, which may be said to have inaugurated the system now adopted with buildings, was the exhibition building in Hyde Park in 1851. If Paxton had to carry out the works the exhibition would not have opened till some years had elapsed. But by giving the order to a firm of contractors the whole work was completed in less than a year. The popular amazement is expressed in Thackeray's "May-day Ode," in which the lucid glass structure is said to have sprung like a fountain from the grass to meet the sun. Fox & Henderson obtained possession of the land on July 30, 1850. So great was the hurry there was none of the usual legal procedure. The contractors had not even the security of any deed, and legally could not claim for the money they expended during several months. Yet on the 1st of the following May the "rare pavilion such as man saw never since mankind began" was opened to receive all the nations. At the present time the preparation and erection of 4,000 tons of wrought ironwork and acres of glazing may seem a trifle, but in 1851 it was a memorable feat, and it demonstrated beyond all doubt that for the great works which were to mark the second half of the nineteenth century the co-operation of contractors was indispensable. This fact should be remembered by the visionaries who imagine that by imparting to a student of architecture such a knowledge of "crafts" as can be acquired in a few evenings it will be possible to regain the old-fashioned system of carrying out buildings without a contractor, even when they have to be extensive.

The exhibition building merely illustrated on a scale which could be realised by the multitude the kind of effort which was displayed in England and on the Continent by English contractors for the construction of railways. When we think of the magnitude of the works for which an organisation had to be devised as it were impromptu, the ability of the contractors must always be recognised as evidence of the innate power of Englishmen. Some of those who took up contracts had been only navvies, and many men who had carried out difficult works would find it onerous to write a description of how they contrived to make the arrangements. Much of what had to be done was novel. But no matter what obstacles were offered by nature, they were overcome. It was said before Parliament that no man in his senses would attempt a railway across Chat Moss, parts of which were 40 feet deep. But the laying of the line was one of the early operations of the Stephensons.

It is remarkable that even in those days the engineers endeavoured to obtain the services of particular contractors. Thomas Brassey constructed most of the lines of which Joseph Locke was the engineer. He had a reputation for making his lines pay dividends to the shareholders, and he was confident that with Brassey and his partner there would be no scamping, and repairs would not be costly. Robert Stephenson also favoured the firm, but he was always sure of attracting the best class of contractors. He was willing to publicly recognise the value of their aid, and it gave him pleasure to know that a contract had turned out profitably.

An architect must look at work in a way which differs from an engineer's. A long stretch of railway may consist of nothing more than open cuttings which afford materials for the embankments, a few unimportant bridges over roads and streams, and permanent way. Everything is simple; the lines of rails may be straight or laid out on definite curves. With a building the cares are more numerous and exacting. Form has to be carefully considered, and the angle of a pediment if erroneously set up is enough to affect the character of a building. It is therefore easily understood why architects when they meet with a contractor who understands and is anxious to realise their spirit should always desire that he should have a monopoly of their work. An example of this spirit is afforded to us by the relations between A. W. N. Welby Pugin, or Pugin II., and Mr. Myers. There was no doubt the artist was an innovator, and his Gothic did not correspond with the style to which builders were accustomed in the occasional work of the thirties and forties of the last century. When Pugin first met him Myers was a workman. But Myers was no mere mechanic. Afterwards Myers contemplated tendering for Pugin's church at Derby. Pugin, we are told, recognised him, and clasping him in his arms, like a true Frenchman, exclaimed, "My good fellow, you are the very man I want; you shall execute all my buildings." The artist kept his word, for the greater number of his churches were erected by Myers. In his turn Myers inspired young workmen with a desire to rival Mediæval carving, and took care that they should have before them casts of the finest examples in order that they might be induced to aim high. Pugin found another zealous aid in Mr. Minton, of Stoke-on-Trent, whose encaustic tiles were declared to be superior to any ancient work, and were the best in the world. But when Pugin broke down he wrote to Mr. Minton:—"Pray, my dear Minton, don't agitate me; the doctors say that I am not to be agitated. If you saw your poor old friend so reduced as I am—thin, trembling, hollow eyed, changed, and yet working tremendously at times—you would be very careful not to distress me." Soon after his illness assumed another form, and he informed Mr. Minton that henceforth he would give his commissions to other manufacturers. His friend, who understood the true state of the calamity, wrote to Mrs Pugin expressing his ignorance of any cause of offence In reply, Pugin apologised and said:—"You mus attribute a good deal to the dreadful irritation of nerves under which I suffered; but nothing would contribut so much to the final re-establishment of my improve health as a real and hearty reconciliation with you. And there was appended to the letter a rough sketc showing Pugin and Minton embracing each other ove an altar inscribed "Pax Pugin et Minton," and on each side a crowd of people shouting, "Pax Minton et Pugin." At the foot there is placed in antique characters, as a border tile, "Pax in æternum. The last pattern, A. W. Pugin fecit." A few months afterwards Pugin had passed away.

In these cases we can see a friendliness between an architect, a contractor and a sub-contractor of a kind which is not usual in our time. Price rules an architect's wishes. He is able to stipulate for certain work being done by sub-contractors on whom he can rely, and in that way his ideas can be at least partially embodied in a proper manner. Indeed, at the present time it may be said that the most satisfactory part of an architect's business lies with sub-contractors. It must, however, be allowed that when parts only of a building are executed as the architect desires there is a possibility that critics will be puzzled by the difference and will be uncertain about how much the architect approved. A contractor like Mr. Myers is not found in every large town, but tiles like those which satisfied Pugin fortunately are still obtainable. The same fact is evident in other classes of work. The circumstances under which the majority of modern buildings have to be raised are not always favourable to the production of loyal builders, but as the number of specialists is increasing it becomes easy to obtain at least some of the details necessary for a building of a kind which is deserving of high commendation.

THE REPORT OF THE ROYAL COMMISSION ON TRADE DISPUTES.

By W. S. Holdsworth, D.C.L.

I.

This report contains a valuable summary of the history of the important subject, valuable notes upon admitted obscurities in the law relating to it, and a clear statement of the principles which ought to be kept in view by the Legislature which attempts to deal with it, together with suggestions as to particular modifications of or additions to the existing law required to carry these principles into effect. The Commissioners did not arrive at a unanimous report; indeed it was hardly expected that they would be able to do so. But, as we shall see, there is a considerably greater unanimity in their views upon the nature and causes of the evils which require to be remedied than is to be found in their views as to the means by which they ought to be remedied. The majority report is signed by Lord Dunedin, Mr. Arthur Cohen and Mr. Sidney Webb. There are separate reports signed by Sir Godfrey Lushington and Sir William T. Lewis, and there are learned notes upon the legal questions involved by Mr. Arthur Cohen.

The Commissioners who signed the majority report divide their report into three heads:—(1) The liability of trade union funds to be taken in execution for the wrongful acts of agents of the union. This involves a consideration of the Taff Vale Case (1901, A.C. 426). (2) The statute law relating to picketing and other incidents of strikes. It also involves a consideration of such cases as Lyons *v.* Wilkins (1896, 1 Ch. 811; 1899, 1 Ch. 255). (3) The law of conspiracy as affecting trade unions, and involving a consideration of the decision in Quinn *v.* Leathem (1901, A.C. 495). We propose to consider some of the recommendations of the Commissioners upon these three subjects. In this paper we shall deal with the first, and in some ways the most important of them all. We shall hope in a succeeding paper to discuss the subjects of picketing and conspiracy.

The opinion of the Commissioners upon the first head—the liability of trade union funds—is unanimous against disturbing the Taff Vale decision. They show conclusively that, though the decision took many by surprise, it effected no change in the law. "We are satisfied," they say in Section 15 of the report, "that the law laid down by the House of Lords involved no new principle and was not inconsistent with the legislation of 1871." The original history of the causes of the mistaken belief that trade union funds were sacrosanct is traced in detail. This history is valuable as dispelling much of the confusion which has gathered round this subject, and we think that too great publicity cannot be given to it. In outline it is as follows:—Trade unions up till recent years have not appeared in the law courts either as plaintiffs or defendants. This was, no doubt, the foundation of the belief that they could not be sued nor their funds made liable. But this was due, not to any idea of their immunity from legal process, but to two distinct causes of a very different kind. In the first place, till 1871 they were unlawful associations. This clearly prevented their appearance as plaintiffs. In the second place the rules of procedure obtaining in the Common Law Courts prevented any person's property from being taken in execution, unless such person was on the record as a defendant. "If, therefore, an association consisted of so large a number of persons that it was impracticable to ascertain the names of all of them or to make them all defendants, the property of the association, as distinguished from that of the individual members, could not be taken in execution in a Common Law action. The difficulty, of course, was not confined to cases against trade unions—it equally affected cases against clubs, and all unincorporated associations with a number of members, and, it may be added, whether the action was in tort or upon contract." This difficulty did not arise in the case of proceedings taken in Chancery. There it was possible to sue a few persons as representing a larger number, and the decision bound all; this, however, did not affect trade unions, as the Court of Chancery did not hear ordinary actions for damages arising out of tort. It was this difficulty which prevented their appearance as defendants.

The first of these difficulties was swept away in 1871. The trade unions were made lawful societies, but they were not incorporated, and certain agreements entered into by them were not to be enforceable at law (see *The Architect*, June 24, 1904). They were allowed to sue in tort for the protection of their funds, but the Act said nothing about their liability to be sued, so that the law on that point remained the same. Theoretically, their members might be sued, but difficulties of procedure barred the way.

In 1883 came a reform of procedure, the broad effect of which was to make it possible to use the Chancery procedure in all kinds of actions. It was not at first clear whether this change would enable actions in tort to be brought against a few persons as representing a large number. In 1891 the Court of Appeal decided that this could not be done. But their decision was based simply upon the interpretation of the new rule of Court, and not upon any such ground as the non-liability of the trade unions to be sued for tort. This interpretation of the rule was held by the House of Lords to have been mistaken in the case of the Duke of Bedford *v.* Ellis (1901, A.C. 10)—a case which had nothing to do with trade unions. This case decided that any kind of action could be brought against a few persons as representing one interest, and that the decision would bind all interested. It would be true therefore to say that there was no law exempting trade unions from liability, but that there were difficulties in procedure which have now disappeared. Trade unionists, however, looking mainly at the facts of the continued immunity of trade union funds, and not knowing the causes of that immunity, were shocked and surprised when they discovered that the law had now found a way to make a practical reality that liability which had always in theory existed. As the Commissioners point out, with the exception of the assumptions made by the Royal Commission on Labour which reported in 1894, which assumptions were based upon an erroneous decision as to the effect of one of the rules of the Supreme Court passed without special reference to trade unions, there was no reason whatever for thinking that trade union funds were exempt from liability. "No public commission as a body has represented that they ought to be exempt; no Government has promised that they would be exempt by forthcoming legislation, and no judge has pronounced that they are exempt." Their supposed exemption was an illusion based upon defects in legal procedure which have now been remedied.

As to the justice and equity of the Taff Vale decision, the Commissioners are quite clear. "There is no rule of law," they say, "so elementary, so universal, or so indispensable as the rule that a wrongdoer should be made to redress his wrong. If trade unions were exempt from this liability they would be the only exception, and it would then be right that that exception should be remedied." We said in *The Architect* (June 24, 1904), commenting on the provisions of the Trade Disputes Bill, 1904, that it was no new thing to find that persons or bodies who had recently acquired power should wish to see that power unlimited; but that such attempts had been defeated, and that the law remained supreme; that, in fact, to exempt any class or body of persons from the law would be more than an anomaly; it would be an attack upon the first principles of the Constitution. The Commissioners are of the same opinion. A claim, they say, to be beyond the reach of the law "has in former times been made by the spiritual as against the civil authorities, and has been consistently disallowed. What was denied to religion ought not, in our judgment, to be conceded to trade unionism." We may add that in the opinion of the Commissioners the result of the Taff Vale decision has been most beneficial. Trade unions have been more careful not to break the law, with the result that strikes have been less frequent and disputes have been more easy to settle.

After reading the sections of the majority report in which these opinions are expressed, most people will be surprised to learn that the Commissioners recommend legislation:—(1) "To provide for the facultative separation of the proper benefit funds of trade unions, such separation, if effected, to carry immunity from these funds being taken in execution," and (2) "To provide means whereby the central authorities of a union may protect themselves against the unauthorised and immediately disavowed acts of branch agents." If it is just, as the Commissioners admit, that the Taff Vale decision should stand, because it is just that the legal liability of the trade union should be the same as that of any other person or body, it is difficult to see why their funds should in those two ways be put into an exceptional position. On this point we think that the reports of Sir Godfrey Lushington and Sir William T. Lewis draw the only possible conclusion from the premises of the Commissioners themselves. "I dissent," says Sir Godfrey Lushington, "from the proposal in the report that the provident funds of trade unions should be exempt from liability. No reason is given for this but the encouragement of thrift. Thrift is a good object; but thrift comes after the payment of just debts, and certainly not least debts incurred in consequence of wrongdoing to others." If such a concession were made to a trade union, it would be just, on similar principles, that any person should claim that any insurance policies of which he was the owner should not be taken for payment of his debts. Similarly, there is no reason why trade unions should be given any exceptional privileges in respect of illegal acts done by their agents. A trade union which employs agents is an employer of labour. Why should not the ordinary law of employers' liability apply to it? There is just as much or as little difficulty in applying it to a trade union as there is in applying it to an individual employer. The result of such legislation as that proposed by the Commissioners would be to place trade unions under some peculiar rule of liability for the acts of their agents. This, as Sir Godfrey Lushington says, is much to be deprecated. "A more stringent liability than is imposed on others would be a hardship to trade unions, while a laxer rule would be unjust to those who may suffer from the tortious acts of trade unions, and would impair the salutary effect of the Taff Vale judgment."

For these reasons we think that both these recommendations of the majority report are really inconsistent with the general principles upon which they are supposed to be founded. It cannot be denied that this seriously affects the practical value of the report. Its recommendations, being somewhat inconsistent with the reasons assigned for them, present the appearance of concessions made to the importunity of trade unionists. It is specially dangerous to show such signs of weakness, because a more important question remains behind—the question whether the trade unionists will be contented with these concessions. It appears to be very unlikely that they will either be contented with them or acquiesce in them. The trade unions declined to assist the labours of the Commission by giving evidence before it, and this must produce a bad impression upon the minds of impartial persons. Such a Commission is appointed to elicit the facts bearing upon a difficult problem, in order that upon the facts so elicited legislation may be framed to provide a solution. If the aims and desires of a section of the community are such that they will not bear the ordeal of the judicial examination which they receive at the hands of such a Commission, there is some ground for supposing that that section of the community means to promote its aims without regard either to their general expediency or to their justice. Under these circumstances we can only regret the more the presence of this inconsistency between the principles laid down and the recommendations suggested by the majority of the Commissioners. Those who will not deign to submit their views to the test of reason and argument can only be dealt with by a firm administration of a law which carries out as far as possible and as definitely as possible the principles of justice which all the Commissioners approve. "The constant fear of punishment," said Hobbes, "maketh men just;" but as a rule races which are civilised can observe some rudimentary principles of justice even though the fear of punishment be not continually present. But if there are those who cannot otherwise be persuaded it only remains to pursue the primitive plan.

(*To be concluded.*)

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at the premises in Tufton Street, Westminster, Mr. E. Guy Dawber, president, in the chair.

The President said they had lost a very old member, Mr. Zephaniah King, who joined in 1864; also Mr. Lancelot Simmons and Mr. Frank Whittingham. Votes of condolence were passed to the relatives of the deceased.

Mr. W. Kaula was elected a member.

House List 1906-7.

In the appointment of officers for the ensuing session Mr. R. S. Balfour has been nominated as president, Messrs. Walter Cave and A. Needham Wilson as vice-presidents.

Mr. A. W. Soames, M.P., contributed the following paper, but owing to the author's absence abroad it was read by the Secretary:—

The London Club House of Last Century.

"Man is said to be a sociable animal," says Addison in opening his "Essay on Clubs," and it seems indeed to have been the custom for men, and women also, to associate themselves together in clubs from a very early period of the history of the world. These clubs, however, in the early days usually partook more of the nature of religious or trade guilds than of the modern social club, although in ancient Rome instances of the purely social club are not wanting.

But, as far as I have been able to ascertain, the erection of buildings devoted exclusively to the use of a social club in England does not go further back than about the middle of the eighteenth century. Before that date these clubs met in taverns or at coffee-houses, usually on fixed days, and they did not as a rule appear to have had any room or rooms reserved for their permanent exclusive use.

The earliest known club in London of the social type seems to have been the Bread Street, or Friday Street, Club, originated by Sir Walter Raleigh, which met at the Mermaid tavern; and among others which sprang up later may be named the Green Ribbon Club (1675), which apparently was the first to provide permanent headquarters for a political party at the King's Head tavern, at the south-west corner of Chancery Lane. In the course of the eighteenth century we find that White's was founded, or refounded, in 1730; the Cocoa Tree, 1746; Boodle's, 1762; Brooks's, 1764; and Arthur's, 1765. And these clubs, outgrowing the accommodation of coffee-houses or taverns, erected buildings for themselves. During the next half-century only two clubs—and those of a different character—the M.C.C. (1787) and the Smithfield (1798) were founded, and it was not until the year 1813 that clubs began to spring up in any numbers in London. Between 1813 and 1832 no less than fourteen clubs were founded:—The Guards, 1813; United Service or Senior, 1815; Portland, 1816; Travellers, 1819; United University and Union, 1822; Athenæum and Oriental, 1824; Junior, 1827; Wyndham, 1828; Oxford and Cambridge, 1830; Garrick, 1831; Carlton and City of London, 1832. Following these, we find in 1837 the Reform and Army and Navy (or Rag), and in 1840 the Conservative Club. This may be said to terminate the earlier period of club building, as in the next quarter of a century comparatively few new clubs were founded; and, indeed, the bulk of the newer clubs belong to the last twenty years of the century.

The evolution of the club house, as might be expected, reflects changes in our social habits. Two, at any rate, of the older club houses—the Athenæum and the United University—when built contained no smoking-room. It was not until 1857 that Thackeray succeeded in persuading the committee of the Athenæum to allow smoking on the premises. In the case of the United University it was found necessary to add a third floor in order to provide a smoking-room. This house, which was built by Wilkins, the architect of the National Gallery, has lately been pulled down, and a new club house is being erected on the site by Mr. R. T. Blomfield, A.R.A. In a remote corner of the Oxford and Cambridge Club may still be seen the row of pegs on which the few members who smoked in the early days of the club used to hang their coats, which they wore when indulging in that pleasant, but then unpopular, habit.

The greater facilities for travelling of the present day have also had their effect on the clubs. Not only have they increased in number, but also in size, and within the last few years it has become usual for clubs to provide bedrooms for members, which was only the case in a few of the old clubs, where perhaps a dozen might be found; while the modern political club, such as the National Liberal or the Constitutional, with its 108 bedrooms, is really more like a hotel than the old-fashioned club. Consequently we find that, whereas the Carlton and Conservative clubs have only one floor above the ground floor, the Constitutional runs into six storeys and 200,000*l.*, while the Travellers was built for the modest sum of 23,160*l.*, and the Athenæum cost no more than 34,239*l.* 2*s.* 6*d.*

Two circumstances may be noticed which had a considerable influence on the early clubs, the one beneficial and the other adverse. The removal of Carlton House, which faced the bottom of Waterloo Place, gave some excellent sites, now occupied by the Senior, Athenæum, Travellers, Reform, &c.; but, unfortunately, the period was one when exteriors were almost invariably rendered in stucco or cement, and this detracts seriously from the appearance of nearly all the older clubs.

The planning of a club house, of the earlier type at any rate, given a well-lighted and sufficient site, is not a very complex problem, and it is one that gives excellent opportunities to the architect. The hall and staircase naturally play an important part in the design, but with a few notable exceptions the designers of our club houses have not made the most of their opportunities in this respect. In many cases we find a spacious hall with an ample staircase, but the effect of the whole completely destroyed by the approach being at one side of the hall, and not opposite the staircase. A notable instance is the United Service Club. The hall is central and on a vast scale, occupying indeed a very large part of the site, and a central flight of stairs rises boldly, branching right and left and returning on both sides to the first floor. But the approach to this hall is by dodging out of a corner of the outer hall or lobby at one side of the staircase, with the result that there is no vista and the effect is absolutely lost. The same is very largely true of the other old service club, the Army and Navy (or Rag), which contains a large, florid staircase, similarly placed and planned, except that the central flight, instead of descending in an unbroken line to the ground floor, branches right and left shortly before reaching the ground, with a questionable effect. In the Conservative Club also the effect of a somewhat remarkable hall and staircase is diminished by a side approach in one corner of the hall.

As an example of how not to do it the Oriental may be cited. Here, again, we have an outer lobby, not particularly well designed, communicating near the corner again with a central hall which is little better than a well, and has a poor geometrical staircase.

The Union Club has also a geometrical staircase, but the approach is better and the space not so cramped. As, however, the main staircase ascends to the second floor, the well-like effect is not entirely avoided; and, indeed, there seems to be a good deal to be said for the plan adopted in many of the older houses of carrying the main stairs only up to the first floor, and reaching the second and upper floors, if any, by a subsidiary staircase.

At the Oxford and Cambridge Club an outer hall leads by thirteen steps into an inner hall, with stairs facing, but, as they are dog-legged and the return flight cuts in half the large windows on the half-landing, the effect is far from good.

The hall of the Junior United Service is entered through a small glazed lobby, probably an addition to the original scheme, and immediately opposite is a very broad flight of stairs, returning dog-legged both ways; but the effect is much marred by coarse and heavy detail, and the dog-legged flights are not happy.

At the Reform the hall, of the cortile type, is very successful, but the stairs are almost concealed, and hardly enter into the design at all.

The Conservative Club possesses a fine hall, to which allusion has already been made. It is square in plan, and the stairs ascend through an archway in the middle of one side; but the distinctive feature is a coved circular gallery at the first-floor level, with a domed glazed light above. This gives four rather awkward spandril-shaped soffits to the gallery, but the effect is striking and distinctly good, though one could have wished for rather more refined detail.

The treatment of the stairs in the National Liberal Club is somewhat unusual. The site is of an awkward shape, and it was no doubt a matter of difficulty to contrive a stately staircase for so lofty a building of so irregular a plan. The stairs ascend round an oval well, and the result is not particularly happy.

The most successful treatment of the hall and staircase is found in the Athenæum. The plan is both simple and effective. The site is a regular oblong, about 103 feet by 79 feet. This space is divided into three portions by walls parallel to the shorter sides, of which the middle part, occupied by the hall and stairs, is considerably the largest, and is roughly two-fifths of the whole. The entrance hall, which is only one storey in height, is divided by irregularly-spaced colonnades somewhat in the manner of a basilica, with a low segmental coffered ceiling over the nave and flat ceilings to the aisles. At the end of this hall, which is somewhat dimly lighted by windows alongside the main entrance, is seen a broad and lofty flight of stairs, branching right and left, and returning on both sides, the whole flooded with light from above. This plan of lighting is very pleasing and the effect of the whole is very good.

The lighting of large rooms 20 feet high or more is a matter of some little difficulty. The older architects for the most part frankly gave up any attempt to produce a window that would reach anywhere near the top of their rooms, and took refuge usually in a coved ceiling. As these clubs mostly occupy positions where there is a good light, and their rooms are not very wide, I am not sure that they were not right. Certainly the elevations gained in solidity and dignity by having sufficient wall space, where it is not frittered away or overloaded, and the attempt to use very large windows in the New University, Junior Constitutional, National Liberal Club, &c., is not so successful as to be likely to induce anyone to follow their example. In a few cases—*e.g.* Oxford and Cambridge and Junior Carlton—an additional height has been obtained by using round-headed windows. In one case—the Rag—this difficulty has been met in another way. The ground-floor rooms have a window of ordinary dimensions, surmounted by an entablature carried on engaged, rusticated columns, and above this a sort of fanlight, square-headed externally, but arched on the interior. The result is not pleasing; externally it suggests an entresol, and I do not think the interior is any the better for them.

The majority of the large rooms are, of course, lighted from the side, but the coffee-room at the Oxford and Cambridge (65 feet 10 inches by 32 feet) is lighted by lofty windows at both ends, a method of lighting which does not give a pleasing effect.

Some of the earliest clubs—*e.g.* the Athenæum and United Service—have the ground floor very little raised above the street level, but it was a very usual practice in later houses to raise the ground floor a few feet higher, and get a fairly well-lighted mezzanine to provide lavatories and offices.

One of the principal objects of the designer of a club is, of course, to provide three or four rooms on a large scale which shall have some architectural character and look comfortable withal. I hold, then, that the ideal room for a club, whether it be coffee-room, drawing-room, library, or smoking-room, is one which provides a considerable number of nooks or recesses, where little coteries can assemble, or where a quiet table for reading or writing can be placed. Nothing gives an air of less comfort to a coffee-room than a bare space of straight wall with an interminable row of little tables set against it, all of the same size and shape. Therefore I would say to anyone who has the good fortune to design an important club house, break your room up boldly into bays, with columns and antæ of ample projection. An excellent instance of this is the library at the Travellers, the most charming room in any club in London. The dimensions are 65 feet by 22 feet 6 inches. The central bay is lighted by three grouped windows, and the end bays by one each. Slender coupled shafts stand well away from the antæ on pedestals connected to them, and some 7 feet or more from the side walls. The entablature is returned across the room over these shafts and the effect is most happy.

In Barry's later house, the Reform, we find a similar arrangement. Here the coffee-room and library are each about 117 feet by 27 feet and 20 feet high, and are divided again into three bays and recesses at each end. But here, instead of a single entablature crossing the room, he has separated his bays by two entablatures about 10 feet apart, with a soffite between at a lower level than the ceiling, and carried in the one room on single columns in antis and in the other on coupled shafts on pedestals standing boldly away from the walls. This arrangement gives additional nooks for small tables and somewhat disguises the excessive length of the room in proportion to the width. Both rooms are very successful, and the library is second only to that in the adjoining house.

The L-shaped room was not employed in any of the older houses, but it is not to be despised for a club. A more sociable method of entertaining strangers is to allow them the use of the smaller arm of such a room instead of relegating them to a badly lighted and stuffy little back room, as is so often their unhappy lot in the older and less spacious club houses. The Union has recently made an alteration to its coffee-room and adopted this plan, and two good examples of L-shaped rooms are to be found at the Junior Carlton.

Time will not permit me to give more than a few notes upon some of the more important club houses, and, indeed, an elaborate description of buildings whose appearance must be familiar to all would be a work of supererogation. Taken as a whole, I should put the Reform Club first in order of merit. The plan is very simple. The main building is a rectangle 120 feet by 105 feet, and in the interior is a covered courtyard, 56 feet by 51 feet, surrounded by a colonnade of Ionic pillars on unmoulded pedestals supporting a gallery, above which a Corinthian colonnade carries the roof. This arrangement gives a perfectly symmetrical, dignified and spacious interior, but the effect is a little marred by the interlacing cove lantern light, apparently of cast-iron. The use also of scagliola for the columns and wall surface is to be regretted.

This plan relegates the staircase to a very unimportant place in the design. It is entirely enclosed, and leads up through an arch opening in the middle of one of the shorter sides. The plans of the ground floor and first floor are almost identical. On the south there is on both floors a room about 117 feet by 27 feet; on the west one of 50 feet by 25 feet, plus a 7-feet recess; and on the north or entrance side and east or staircase side smaller rooms. As regards the exterior, the composition is of the simplest. The north and south elevations show three floors, each of nine windows equally spaced, and of one design for each floor, bound together by mouldings and enriched bands, broken only by a central door on the north, while the side elevation shows eight windows, with the four middle ones grouped rather closer together. A bold cornice and rusticated quoins complete the composition. The result of the simplicity of treatment and ample space of plain wall is to produce a building of which breadth and repose are the leading characteristics. It may be said by some that there is not enough window for our northern clime, but as no room in the club is more than 27 feet wide, they are, as a matter of fact, sufficiently lighted, and I, for one, am thankful that Barry kept his wall space as ample as it is.

Its neighbour, the Travellers, an earlier work of the same architect, has a frontage of 72 feet to Pall Mall, and a depth of 104 feet, with light only to the back and front. The architect has dealt with this by placing his entrance at the west end of the façade; from an outer hall a corridor, broken up into three bays and lighted by an open courtyard, leads to stairs on the left and the coffee-room beyond. This is well managed and gives a good vista, while the courtyard lights a small house dining-room on the other side, and there is a good morning-room to Pall Mall. Of the charming library on the first floor I have already spoken. The elevation to Pall Mall is very quiet, simple and well-proportioned, and in treatment much resembles its neighbour. But it suffers from being in stucco, and from the necessity of placing the entrance at one end. The elevation to Carlton House Terrace, with its three grouped round-headed windows, is not so successful, and does not merit the praise which has been bestowed upon it. It is said, with what truth I do not know, that the Pall Mall elevation was suggested by the Pandolfini Palace at Florence.

The Athenæum, by Decimus Burton, is, or was, another building simple and formal in character, but it has been ruined beyond redemption by the unfortunate addition of a third floor set back some 7 feet or 8 feet inside the main walls of the building. It surely should not have passed the wit of man to design a third floor without committing such an outrage upon an important building in one of the most prominent sites in London. The removal, too, of the balustrade surrounding the area can hardly be considered an improvement. The continuous balcony at the first-floor level is one of the rather unusual features of this building, and the small windows contrived in some of the panels under the balcony towards Pall Mall are certainly not happy. On the whole the exterior, though well proportioned and refined in feeling, leaves one rather cold.

The Oxford and Cambridge Club, by Robert and Sydney Smirke, was built in 1836-37, and cost no more than 26,743*l.*, though the frontage is about 90 feet and the L-shaped site is 130 feet in extreme depth, the whole of which however is not covered above the basement. It cannot be considered as particularly happy either in plan or elevation. The dog-legged stairs and end-lighted coffee-room have already been mentioned as not pleasing, but the other rooms are more satisfactory. The elevation is not particularly successful. Sculptured panels over the first-floor windows hardly succeed in concealing the fact that there is a vast height of wall above the windows, of which the use is not apparent, and the long, vertical lines which they introduce detract from the solidity of the whole.

The Conservative Club shows a symmetrical façade, with small wings of slight projection, the northern containing the entrance and the southern a large bay window. The ground storey is rusticated, and the central block has a detached Corinthian order above, and the whole is finished with a balustrade. It is a building of some dignity, and the front is one of the most successful. The plan gives a fine room to the front, and there is a spacious coffee-room behind.

The United Service Club occupies a fine site, and the main lines of the building are not bad, though not of any striking originality. Exception might be taken to some of the details, but the building has a massive air and is not inappropriate to a club of warriors.

The designer of the Junior United Service has not attempted any symmetry in his main elevation, but by boldly placing his main entrance out of the centre of the façade has secured a fine room with a large bay on the east. The impression, however, of the whole is one of heaviness without dignity, and the end elevation to Regent Street, with its windows of varying heights and shapes, is particularly unfortunate.

The Army and Navy Club, by Parnell & Smith, was completed in 1851 at a cost of 54,000*l.* It owes some of its features to the Palazzo Rezzonico, on the Grand Canal in Venice, which was designed by Longhena in 1680, and owes its upper storey to Massuri sixty years later. The entrance in the side street enabled the architects to provide a fine room to Pall Mall, but the details of the interior are over-florid and not in the purest of style. The exterior is not unimposing, but one could have wished for a little more plain surface for the eye to rest upon.

The Carlton Club occupies a fine site with a light on three sides, like its neighbour the Reform, and the building is an elaborate one—a little too elaborate, in fact—and is open to the same criticism as the last. The surface is worried and cut up till there is hardly a square foot of plain surface to give repose to the eye. The polished granite columns, too, afford an unpleasing contrast to the stone, especially as the surface of the stonework is now unfortunately disintegrating badly.

The Junior Carlton is a building which has been completely remodelled. As originally designed by David Brandon, and opened in 1869, it showed a projecting portico, with the entrance at the east end and a corresponding bay at the western end. A few years later, however, the club acquired the site of the houses which then existed beyond it on the west, and the club was extended and entirely remodelled by Mr. Macvicar Anderson, and reopened in 1886. The entrance is now central, and the plan, which has been skilfully rearranged, gives spacious L-shaped rooms to the east both on the ground and first floors, and provides amply for all the needs of a large club. The elevations cannot be considered as satisfactory as the interior. They are wanting in style, and of no particular interest.

The Garrick is a club of modest dimensions. Though founded in 1831, the present building was not opened till 1864. It was designed by F. W. Marrable, and presents no very remarkable features in itself, though it contains an extremely interesting collection of pictures, mostly portraits of members and theatrical celebrities. The site is cramped and irregular at the back, and the architect was compelled to make his entrance out of the middle in order to get a good room to the front on the ground floor.

Of the huge buildings that have been more recently erected for political clubs, it is difficult to speak in terms of much commendation. The National Liberal Club has certainly more architectural character than the Constitutional or the Junior Constitutional, but, while fully admitting that the site was a difficult one, it is impossible to avoid feeling that more might have been made of it. The tower at the angle suggests either a back staircase or a chimney, or both, and a treatment of the angle might have been adopted which would have utilised it as a good and characteristic feature internally as well as externally, as witness the New Gaiety Theatre.

The change in scale between the windows of the lower and upper floors is so great as to be disagreeable, and if the lower windows had not been so vast the building would have gained much in breadth. If, however, it was considered absolutely necessary to keep them so large, more subdivision by mullions and transomes would have brought the large and small windows into better relation with one another.

The Constitutional Club occupies perhaps an even more awkward site, and it has not been successfully dealt with. Terra-cotta, too, is a poor material for a building on so large a scale, but a better material would not have redeemed it. The Junior Constitutional cannot, however, be said to suffer from a poor material, nor does the frontage to Piccadilly offer any difficulties, but a marble front will not carry off a poor design, and this one is quite wanting in breadth and dignity.

With regard to all these three, the question arises whether buildings so lofty and on so large a scale can be satisfactorily treated with gables. I am inclined to doubt it. More emphasis to the horizontal lines is, I think, required than can be obtained with such a treatment.

Before closing a somewhat rambling and discursive paper a word of thanks is due to the secretaries of the various clubs for their courtesy and kindness in affording me facilities for viewing the buildings and valuable information with regard to them—a courtesy which, I fear, is somewhat ill-requited by adverse criticisms upon some of the houses.

Mr. A. Keen, who proposed a vote of thanks to the author of the paper, said he regretted they had not had illustrations of the buildings described. The designing of a club was a very great opportunity for an architect, and one that came very seldom to him. One always imagined, he said, that the committee of a club desired a dignified and refined building rather than one of a pretentious character. He thought they must all feel a certain amount of disappointment in some of the London clubs, which were often buildings with very little architectural merit, and dull and uninteresting to a degree beyond the fact that they were dignified and reposeful. The Reform, Travellers and Athenæum, all together in Pall Mall, were the only club houses that could be said to possess architectural composition. The Athenæum was at a disadvantage in stucco, but it was the fashion of the time, and the building was so well kept nowadays that they could pardon the fact. It was an example of good architecture, and there was a certain homeliness and picturesqueness about the building, which was enhanced by the paint and distemper with which it was treated externally. Mr. Soames had condemned the raising of the height of the building by the addition of an extra storey. They must all regret that this had been necessary, but since there was no alternative the speaker said he failed to see how it could have been better done, and he thought they were indebted to the architect for the reserve he had shown. In a Classical design it was always difficult to raise the building with any degree of success. They would all put the Reform Club first among all the club houses in London. It seemed to him to possess all the qualities of fine architectural design, fitness for its purpose, fine proportion, and, in a very especial way, it was distinguished by a fine proportion between voids and solids, and the whole effect was an extremely imposing composition. This was one instance of work showing merit, but he felt that in many of the other club houses the architects had not made the most of their opportunities, and he had an uneasy feeling that the chance would not occur again.

Mr. Matt Garbutt seconded the vote of thanks.

Mr. H. P. G. Maule said the paper had not done justice to the work of the modern architect. The older clubs were nearly all confined to large rooms, but in the modern requirements there was a striking contrast in the arrangement. The sites were cramped, and the elevations suffered, being enfeebled in breadth and dignity of treatment. The planning of the modern clubs generally was extremely fine.

The President, putting the vote of thanks to the meeting, said the author of the paper had not dealt with his subject from an architect's point of view, for he did not take into account the difficulties of to-day over those of the last century. In conclusion, he thanked Mr. Driver, the secretary, for reading the paper in the author's absence.

VALUATION OF THE METROPOLIS.

A RETURN has been prepared from the valuation lists sent to the County Council under statute, showing the total valuation of the administrative county of London, which, subject to appeals, will come into force on April 6, 1906. The totals of the lists are as follows :—

Gross value	£52,928,707	0	0
Rateable value . . . , .	43,486,436	15	0
Assessable value, *i.e.* rateable value, reduced by one-half of the rateable value of agricultural land . . .	43,477,771	15	0

The increases in valuation over the figures in force on April 6, 1905, shown by the return, are :—

Gross value . .	2,490,054	0	0	or 4·94 per cent.
Rateable value . .	1,829,370	7	6	,, 4·39 ,,
Assessable value .	1,830,461	17	6	,, 4·40 ,,

The largest increases have taken place in the City of Westminster (386,078*l.*), the City of London (253,015*l.*), St. Marylebone (160,664*l.*), and Wandsworth (135,625*l.*); and the smallest in Islington (5,029*l.*) and Stoke Newington (5,859*l.*); while in St. Pancras there is a decrease of 936*l.* The total increase in assessable value is less by 322,996*l.* than that at the last quinquennial valuation, at which, however, the increase was abnormally large.

A Fund has now been opened for the founding of a Chair of Architecture at the Durham College of Science.

NOTES AND COMMENTS.

We have several times called attention to recent practice in the Courts by which both architects and engineers are held to be liable when claims are made on account of their manner of carrying out work. It is not sufficient to plead that they acted with their best judgment and according to the usual procedure. This week at the West Riding Assizes an important case was heard before Mr. Justice Bigham. Mr. John Richardson and Mr. G. B. Hartley, civil engineers, of Leeds, claimed 1,345*l*. 7*s*. from the Castleford Urban District Council, being balance of account for services rendered in connection with water and sewage works. The Council paid 600*l*. into Court, but counterclaimed 2,000*l*. for damages sustained in carrying out the work. The case occupied three days, and in the end the jury found for 550*l*. for the plaintiffs, in addition to the 600*l*. lodged. Besides the reduction of fees, the jury awarded to the Council 100*l*., on the ground that there was negligence on the part of the plaintiffs. But the result might have been different if the case had been heard by an engineer as arbitrator.

The Paris Opera House is supposed to exemplify advanced construction, and it is usually accepted by Parisians as being fireproof throughout. It is, however, remarkable that a wooden staircase exists in the building, and, what is still more surprising, it was intended to be used by the Emperor and the monarchs who visited him occasionally. A peculiarity of the building is that on one side there is a ramp by which carriages could ascend not only to a doorway, but inside the vestibule. A staircase led to the Imperial box, a special salon and other reserved apartments. In order to save time the staircase was made of wood; it was afterwards to be superseded by one of marble. But the war prevented the alteration, and the wooden staircase has therefore remained in its position for nearly forty years. The case was brought before the Municipal Council by one of the members, who considered it was a source of danger to the costly building. The officials in charge have always taken special precautions. The edifice will be made as secure as possible, but what is necessary is to have the staircase reconstructed in stone.

ILLUSTRATIONS.

CITY OF MANCHESTER NEW FIRE STATION.—A STUDY FOR THE HOSE TOWER.

The important group of buildings facing London Road, Fairfield Street and Whitworth Street, Manchester, will, it is expected, be completed by the end of July. The area has been appropriated to the following purposes:—

	Square Yards.
Fire department	1,438
Bank	133
Coroner's court	288
Gas-meter testing department	937
Police department	617
Courtyard in centre of buildings for drill purposes, &c.	2,050
Total	5,463

Williams Deacon's Bank, Ltd., occupies a considerable portion of the ground floor on the front facing London Road. The need for a coroner's court has often been pointed out. The gas-meter testing department also fulfils a useful purpose, and has lofty and wide rooms wherein to do its work. The police station and the horse ambulances the city cannot dispense with. It will be evident that while the larger portion is assigned to the fire brigade, the needs of other departments of municipal work have been considered.

The fire brigade will occupy the whole of the building on the Fairfield Street side. There is accommodation for seven engines and twelve horses in the engine-house. There are seven bays for the seven engines. Each engine, when not in use, will stand facing the street, a gateway being provided for each. The men's quarters are above the engine-house, so that when the alarm is sounded in the night season this is what will happen:—An electric bell rings in the bedroom, which at the same time will be flooded with light. The man thus roused goes to the corner of his bedroom and slides down a pillar to the engine-house.

Over the engine-house also are the electrical operator's room, the office and living apartments of the chief officer (Mr. Bayliss) and the hose tower. The hose tower is a prominent feature of the building, and is an essential part of a well-equipped fire station. It is used for the quick and economical drying of the hose after its use at a fire. Besides the room for the men, called the duty-room, there is on the Whitworth Street side a recreation-room. The basement affords the needful accommodation for the heating apparatus and a salvage store. On the Whitworth Street side are the mechanics' shops, smithy, paint shop and a spare stable. The entrance to the coroner's court will be from London Road. The gas-meter testing department is at the corner of London Road and Whitworth Street. It occupies more than 900 square yards of the ground area, with basement and two floors above. The police station is at the angle of Whitworth Street and Minshull Street, and has offices, seven cells, stabling for four horses, an ambulance house and six dwellings for police officers. The upper floors over the bank, coroner's court and gas-meter testing offices are to be used as dwellings for the firemen, accoutrement stores, gymnasium, laundry, hay and straw stores, and children's playground. Besides the chief, second and third officers' houses, there are thirty-six dwellings for the firemen.

In the buildings brick has been used throughout, with terra-cotta facings. The architects are Messrs. Woodhouse, Willoughby & Langham, of Manchester. The cost of the land is set down at 25,000*l*., the contract for the foundations at 7,720*l*., and of the superstructure 75,000*l*.

VILLA CASTENHOLZ, INSEL OBERWERTH, COBLENZ.

A MONSTRANCE IN SILVER-GILT AND IVORY, FOR ARUNDEL CHURCH, SUSSEX.

This monstrance, which was designed by Mr. N. H. J. Westlake, F.S.A., is intended for use in the church of St. Philip Neri at Arundel, and was a wedding present to his Grace the Duke of Norfolk from the Catholics of British Isles. For the purpose of making some presentation and receiving subscriptions a committee was formed, and the Earl of Denbigh kindly fulfilled the office of honorary treasurer. At the suggestion of his Grace, the present took the form described above. Mr. Westlake was chosen to make the design, and Messrs. Hardman & Powell to carry out the work. The monstrance is of solid silver, deeply gilt, excepting the angels supporting the central dish, which are of carved ivory. They are auxiliaries to the text inscribed on the monstrance, "Hic est panis qui de cœlo descendit." On either side of this centre, under canopies, are figures of St. John the Baptist, St. John the Evangelist, St. Henry and St. Cunegunda. On the base, in bassi-relievi, are busts of the four types of sacrifice, Abel, Abraham, Melchizedek and Noah, with the witnesses of the Transfiguration, Moses and Elias. The total height of the monstrance is about 42 inches, and its weight about 25 lbs. It is one of the largest and most important pieces of ecclesiastical plate in England, perhaps in Europe. The great monstrance of the cathedral of Cologne,* of the same type (fourteenth century), is 87 centimetres in height and not so elaborated.

FINLAYSTON, N.B.

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* This is kept and shown in the Chapel of the Three Kings; it is illustrated and described in Dr. Franz Bock's "Das heilige Köln," pp. 13 to 17, plate x., fig. 39.

THE YEOMAN'S HOUSE IN ENGLAND.*

I SHALL not commence by making the customary apology for the imperfections of my paper, because I hope you will be so interested in my subject that such will be unnecessary. Before going further, however, I should like to take this opportunity of expressing my indebtedness to Mr. Batsford, the publisher of the series of volumes on old cottages and farmhouses, who has kindly lent me photographs, and to whose books I have freely referred.

Now, in speaking about architecture to-night, I want you to think of it not as a mere dry-as-dust antiquarian study of old buildings remotely connected with bygone ages, but as the outward expression of the thoughts and aspirations of our forefathers. It is so interwoven with the life and history of a people in all the great changes that nations underwent, that you will find its expression in the buildings of their time. In the Middle Ages and down to the eighteenth century architecture, or building as it is better called, was always influenced by local conditions, and the character of the work was much the same all over the country. It was really a product of evolution, growing out of the inherited knowledge of the wants the builders had to satisfy, and of the natural material at their disposal. The first need was shelter, or protection from the inclemency of the weather, and it was not until nations had arrived at a certain height of prosperity and opulence, and had leisure for the cultivation of the fine arts, that architecture, sculpture and painting can be said to exist. The original classes into which primitive mankind was divided were hunters, shepherds and agriculturists, and the buildings which each would require were characterised by their several occupations. The hunter and the fisher lived in the clefts of the caves and rocks, and the indolence which this state of life produced made them probably indifferent to greater comfort. The rock-cut temples of India and Egypt are based upon the cave dwellings. The shepherds or inhabitants of the plain, who roamed with their flocks from pasture to pasture, naturally required a species of dwelling that they could carry with them on their wanderings. This was doubtless the tent, the type of the architecture of China, whose people, like most of the Tartar races, were nomads or dwellers in tents.

Where a portion of the race fixed its abode for the purpose of agriculture, a different and more permanent dwelling was necessary. Solidity was required both for the personal comfort of the husbandman as well as for storing the fruits of the earth upon which he and his family subsisted. Hence we have the hut of which the Grecian temples are a type. From this rough subdivision we find that the first habitations of mankind required but little skill or knowledge, and merely satisfied the actual needs of the moment. It would, however, be impossible in the time at my disposal to trace the gradual evolution of the house from prehistoric times—though extremely interesting this belongs more to the domain of archæology. We know, however, that the earliest huts or dwellings in Great Britain were originally circular, built of wood interlaced with brushwood and covered with mud and straw, the top of the hut being probably thatched with reeds or such materials. The fire was in the centre of the floor, and light would be admitted through the door which served both as entrance and to let the smoke out. Many remains of these early buildings have been discovered near Glastonbury recently, and in Northern Italy and parts of Germany. At a later date houses were built of stone in imitation of these wooden ones. This single room was invariably open to the roof, and the next step towards comfort, if such it could be called, was to find an outlet for the pungent wood smoke. This led to a hole in the roof—the precursor of the chimney. In later times this opening developed into a tower or turret rising out of the roof, its sides fitted with sloping boards to break the wind, a method retained in use for many years, and which became an object of very considerable beauty in the external aspect of the building.

Up to the time of the sixteenth century it was common for the men and cattle to occupy one building, a custom that still prevails in Friesland, where all the large farmhouses shelter both the family and live stock alike. Indeed, a very large number of English farmhouses still exist in which the dwelling-home, barn and stables are combined under one and the same roof. In France to-day there are many of the old manor-houses that have changed in their customs but little since the Middle Ages, and where the labourers sleep in the stables over the stalls of cattle and horses, and there are many people in this country still living who remember how farmers' men-servants used to sleep on the hay in a gallery or loft over the cows.

The ordinary house was a very simple affair, consisting of one room, the general living and sleeping-room, with another called the "solar," either through it at one end on the same level or above it, and reached by a separate staircase. This central hall, or "house part," remained for years the principal apartment, for it was often the only room containing a fire, and down to the sixteenth century the men-servants and retainers generally slept there; indeed, "when night came, straw, rushes, heath or dried ferns were spread upon the floor, and those unprovided with beds or couches laid themselves down, each under the bench or table at which he sat." It was the keynote to the plans of houses, both great and small, in this country for centuries, and if we bear this fact in mind it is easy to trace the development of the plan throughout the Middle Ages and down to the seventeenth century.

During this early period the community was more or less divided into two sections—the Church, as represented by the monasteries and abbeys, and the State by the kings, barons and nobility. Up to the Reformation, or Dissolution of the monasteries in Henry VIII.'s reign, most of the workers on the land were accommodated in convent buildings or beneath the roofs of the great landowners, whilst the numerous hospitals, or bede-houses, afforded shelter for a number more, and small individual houses were practically unknown, and such as were built have long since vanished. But when the change of ownership came at the Reformation an immense impetus was given to agriculture throughout the country, and the building of houses both great and small became a necessity, as all the former shelters and asylums had disappeared. Houses were no longer built for defence, surrounded by high walls and moats, and it is from this period (about 1550) that the greater part of the timber and stone houses and cottages in England were constructed.

Dealing with our special subject to-night—the Yeoman's House in England—we find that the architecture of the larger houses lies in a category somewhat by itself, and doubtless owes much to foreign influence and execution, so that it must be amongst the smaller and more homely buildings standing modestly by the wayside that we must look to find work conceived and carried out by native hands, and the period in which I think we shall find the most representative types will be in the years between 1580 and 1680. A yeoman as we understand it to-day was a freeholder, a man who owned and usually himself cultivated a small landed property, and thus had an interest and stake in the welfare of the country. The origin and progress of this class of the community is most interesting, but I have thought it better not to attempt to deal with it from the historical point of view, but to tell you about the houses that he lived in and the way he built them. We must recollect in those days houses were handed on from father to son and were often occupied for generations by the same families.

Perhaps we do not sufficiently realise that it is this old architecture that has made our country so picturesque and has added so largely to the quiet beauty of our villages and hamlets, for the forms and colours of old English cottages and farmhouses are almost always pleasing in themselves and in harmony with their surroundings.

Again, the geological formations of this country not only give a distinctive character to the districts which they compose, but also to the buildings themselves, and where we find the materials that nature provides used, there without doubt do we see the most beautiful architecture because it is the most appropriate.

The chief feature of building generally in the olden times was suitability to its purpose and the use that was invariably made of the local materials at hand. Sussex to-day, like its neighbouring counties, Kent and Surrey, is mainly devoted to agriculture, and though it no longer ranks as a manufacturing centre, it at one time contained the Birmingham of Mediæval England and carried on an enormous trade in iron. This trade increased rapidly throughout the Middle Ages, until in the sixteenth and seventeenth centuries the ironworks were of very great importance, for we read that in 1653 there were no less than twenty-seven separate furnaces in Sussex alone. It is indeed difficult to realise the busy human life that once peopled this sleepy district and to think that the guns which roared at the Armada and resounded at Edgehill were cast in Sussex. The entire Weald of Kent and Sussex was formerly covered with thick forests, and until their destruction for smelting the iron ore probably most houses were constructed chiefly of timber, and only the larger and more important ones of stone.

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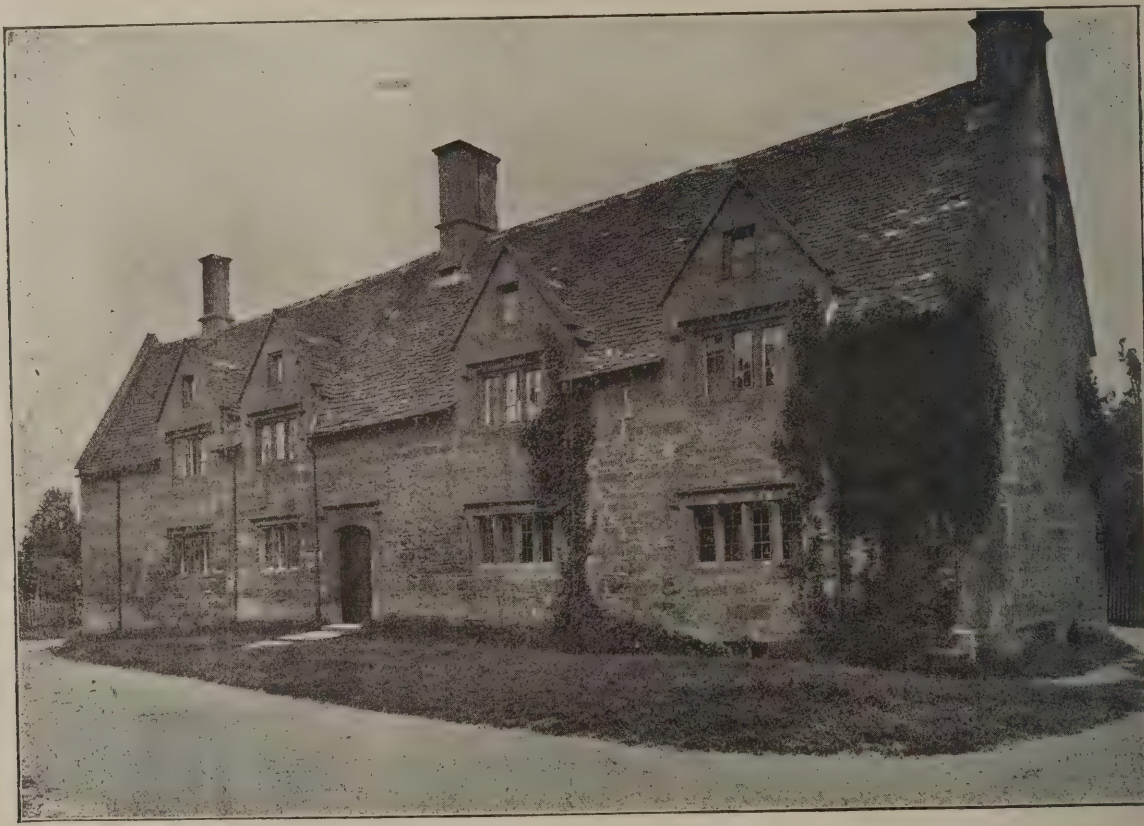
* A paper by Mr. E. Guy Dawber, F.R.I.B.A., read at Carpenters' Hall on the 15th inst.

In Shropshire, Herefordshire and Cheshire, where large forests are known to have flourished, the timber buildings were brought to a state of perfection unrivalled in England, and all possessing their own special characteristics.

In the flint, chalk and brick districts of East Anglia we find the use of those materials produced a definite style eminently suitable for its purpose and typical of the country, and in the track of the great belt of oolite that stretches diagonally across the whole of England from the Somersetshire to the Yorkshire coasts the buildings are constructed entirely of the stone which lies everywhere within a few feet of the surface.



TOP FARMHOUSE AT WILLERSEY (NEAR BROADWAY), GLOUCESTERSHIRE.
[From *Old Cottages and Farmhouses in the Cotswold District*, by W. Galsworthy Davie and E. Guy Dawber.
B. T. Batsford, Publisher.]

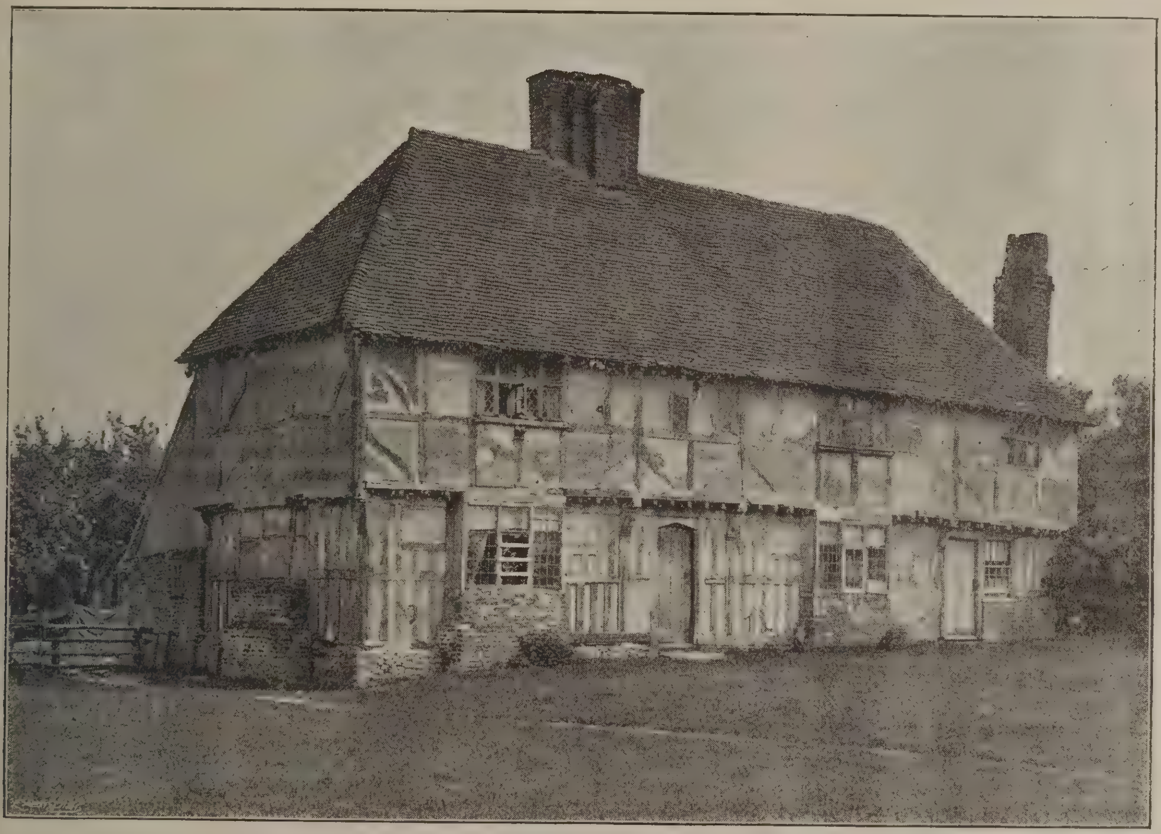
In the views that you will see to-night I shall endeavour to show you how much the materials of which the houses were built influenced their construction and design. Of course we must recollect that the builders had none of the difficulties to contend with that are ever present to-day. Drainage and sanitation were practically unknown as we understand them; water-supply and the consequent introduction of pipes inside the house, together with the complications of modern requirements, were non-existent, so that when examined in detail they are found to be simple, both in plan and arrangement. The houses were mostly placed in such positions as would shelter them from exposure to the weather, and give ready access to such roads as then existed. This, however, was by no means always the case. Apparently no attention was paid to the question of aspect or as to whether the position commanded good views. I have selected a few typical houses from different parts of the country showing the positions we find them in to-day. No doubt a great deal of the charm of these old houses is due to the fact that they were nearly always self-contained, for the first thing that strikes us is the absolute simplicity of the plans. The bulk of the larger ones have now been converted into two or more separate dwellings, and though many of these later alterations appear at the first glance to have changed the original plan, it is easy to reconstruct it. As single houses they consisted of two or three rooms on the ground floor, with one, the living room, generally larger than the others—the most usual plan being practically a continuation of the old Mediæval one, an oblong living or common room in the centre with offices or chambers at either end or forming wings; sometimes the wing was built at one end only, but more frequently the plan was symmetrical. A beautiful, though much mutilated example, still remains in the manor-house at Pattenden, Kent, which dates from the early part of the sixteenth century, having been built for the standard-bearer of Henry VIII.

Beyond the actual rooms themselves there was nothing; no store cupboards or conveniences of any kind, and everything was contained within the four outer walls. One sometimes wonders what these sturdy old yeomen would have thought of our modern craze for putting baths in cottages. It rather reminds me of the dear old lady who had one of these luxuries, and when I asked if she liked it said "she thanked God she had never had occasion to use it yet," and her near neighbour who, in answer to my similar question, said "she found it a most excellent place to keep the hens in." The smaller houses generally had but one outer door, but as they grew in size and importance two, and sometimes three doors were not unusual, and it is only since these houses have been converted into cottages that other doors and windows have been inserted such as were never found in the original buildings. In the farmhouse at Rissington in Oxfordshire this was clearly seen.

The houses were always planned one room in thickness so that they could be roofed in in a single span, and so avoid any complications with internal lead gutters and flats. When more accommodation was needed they were at first lengthened, then made L, E, or H shaped, with a central block and projecting wings, but however large the house, always retaining the single span roof; you will notice how much this limitation had to do with the design and appearance of these buildings. The stairs generally ascended in the middle of the house directly from one or other of the living rooms and frequently by the fireplace, and contained in as small a space as possible. They were often circular in plan, and in some of the oldest houses are in stone with a central post or newel similar to those in a church tower—an instance of the manner in which old traditions lingered in country places. Oak was the other material used with a series of winders round a centre post, and generally cramped and awkward to get up and down. Sometimes these staircases were in turrets projecting from the main building, finished at the top with a conical roof, as in the farm at Hotst, in Normandy, and the château of St. Hippolyte at Canopville. Until a few years ago there was a beautiful example at Burford, in Oxfordshire, but this unfortunately has been pulled down.

The two great features of domestic architecture, more particularly in a climate like our own, are the roof and the fireplace—they represent the abstract ideas of shelter and warmth, and whether in the castle or cottage have always been given due prominence in every English home. The fireplace was the spot around which the family would cluster after the day's work in the fields or at the loom was done, and where the meals were cooked. Most of the fireplaces, those in the living rooms especially, were very large, frequently 6 feet and upwards in width; they were not high—some 4 or 5 feet—with the head formed either of stone (as at Plas Mawr, in Conway, and Boswick Hall, in Westmoreland), or spanned with a plain lintel of oak or arched in bricks. Wood was the usual fuel burnt on the hearth, and pots and kettles were hung from the hinged iron trivets fixed on one of the innermost angles. When the replaces were large, on one or both sides seats were often rranged just wide enough for a person to sit down omfortably. Some few inches up on each side there were laces hollowed out to take the elbows, or else to stand a up or mug on. Sometimes cupboards were fitted in, and ccasionally there are small windows to light the ingle. hough their close proximity to the fire has its obvious rawbacks, yet these warm seats are much coveted corners, nd in the village inns to-day in the West of England you an often see the old labourers putting up willingly with marting eyes and general discomfort rather than shift their laces. The bread oven in which the faggots were burned enerally opened out of one side of the fireplace, sometimes uilt in the thickness of the wall or else jutting out in the rm of a semicircle with a small roof over it, as at Snowsill, which is a very typical plan of a small self-contained ouse. The chimneys are quite one of the most important lements in the external effect of many of the houses. The beral use of materials in their construction, the simple yet old way in which they spring in rich clustering shafts from e ridges or gable ends, is always an attractive feature, and ne that greatly enhances their beauty, as you will notice in the very beautiful house near Godalming. The variety of plan adopted is almost endless, and the utmost ingenuity seems to have been exerted in their arrangement. They are placed generally at either end of the building, or they rise in a mass from the centre of the roof and as if the old builders disliked too much uniformity. When the letter plan is adopted we notice various projections and settings forward, many without apparent reason except the love of novelty and change, as at Easebourne, near Midhurst.

In those parts of Sussex and Kent where stone was quarried many of the cottages were built of it, but here, as in other districts of England, the builders were confronted with the difficulty of carrying up the stacks above the roof line in stone. The nature of the stone was such that it did not lend itself to the customary separate shafts, such as are seen throughout the Cotswold and Northampton districts, formed of thin slabs set on edge one over the other. To build them in the ordinary stone walling would have made them too cumbrous and bulky, so before leaving the roof the stone was abandoned and brick unreservedly used as a substitute. Hence we frequently see in this part of the country the pleasing combination of the base of the stack, which generally projects from the face of the wall, being of stone, and the shafts above being in brick, as at Eashing Park, Ford Mill, near Wrotham, Penshurst, Wickhambreaux, and Bean Lodge Farm, near Petworth, and Craven Arms. Now, in the stone districts the chimneys were always placed centrally over the ridge or on the apex of the gables at either end (as at Broadway), or when the stacks were at the side of the building then on smaller roofs connecting them with the main one. The base of the chimney was invariably square until it cleared the roof, then the flues were built separately, either square or diagonally, in clusters of two, three or four, always made of slabs of stone (as at Medford House in Gloucestershire), about 3 or 4 inches thick and 8 or 10 inches deep, standing on edge and breaking joint over each other, and tied together at the top by a moulded cap of some simple section, as at the court-house at Painswick in Gloucestershire. The ingenious way in which these chimneys were managed, whether of stone or plain unmoulded bricks, always excites a feeling of admiration, for, simple as they are, they possess a breadth and sense of proportion sadly lacking in cottage chimneys of the present day.



COTTAGES AT SWANTON STREET, KENT.

[From *Old Cottages in Kent and Sussex*, by W. Galsworthy Davie and E. Guy Dawber. B. T. Batsford, Publisher.]

It was, however, in the arrangement of the roofs that these old builders excelled, always bold in outline, simple in plan and arrangement, and generally unbroken in their surface and treatment; they shelter the whole house and convey at once a kindly feeling of homeliness.

In the tiled roofs of Kent and Surrey hips perhaps are more frequently met with than gables, and hardly a roof seems complete without them, but directly we get into the districts where stone walling and mullioned windows are used gables are more noticeable.

Now, if we analyse any of these roofs in order to discover what constitutes their charm, we find that they resolve themselves into very simple forms, but the masterly way in which in almost every instance the grouping and disposal of the gables, chimneys and dormers was managed is worthy of our admiration. Dealing first with the stone buildings, the roofs were nearly always treated in the same way, having a slope of about 55 degs., and being hung with stone slates (the only material available), graduated in thickness and size from the eaves to the ridge, and crowned on the top with a stone cresting. In the one example from Painswick you will see how these stone slates are used. There we see the effect of material upon design and construction, and how these builders realised that one was dependent on the other. The nature of the stone of which the slates are made—in the Cotswolds at any rate—limits them to certain sizes, so that the stone roofs of flatter pitch covered with large and heavy slates found in Sussex and the North of England are quite unknown here.

Now, if the angle of the roofs was flattened the slates would have to be larger, otherwise they would not keep the wet out, so after finding the pitch at which they had least strain on the pins and were most weatherproof, the old slaters never varied it. The valleys are formed of the same slates, in a wide sweep with no hard line of demarcation where the roofs intersect, all laid in regular formation and ranging with the ordinary slating, as shown in Callowell Farm, near Stroud. Owing, doubtless, to the difficulty of getting lead in these country villages, the builders did without it, and their houses, as mentioned before, were always roofed in a single span, and no lead gutters or flats were needed. Hips or any cutting or mitreing of the slates were absolutely unknown in a genuine stone-roofed house, and we therefore find invariably the gables with the slates carried out over them, as at Back Edge, in Gloucestershire, or finished with a coping, as in Moor Hall, Stroud.

The old craftsmen could do almost anything with their stone slates; the clever way in which the outside overs were roofed, or over the circular outside staircases with pointed roofs, and again in the beautiful dovecots, of which so many still remain scattered about the country, is truly remarkable. The dovecot from near Cirencester is a very typical example.

In Cheshire and Lancashire and Yorkshire, and parts of Sussex and Somersetshire, where the stone slates are very large and heavy, the pitch of the roof is flattened, for you will realise it would be impossible to cover with heavy stone slates steeply sloping slides, where all the drag and strain would be on the pegs and laths (examples are given from Billingshurst, Sussex, and Corfe in Dorsetshire, and Alderley Edge in Cheshire). Doubtless some of the roofs of the houses in the south-east of England which are now covered with red tiles and have such a beautiful effect were once hung with stone, as many of the buildings are of earlier date than the roofs.

(*To be concluded.*)

TURNER DRAWINGS AND PAINTINGS.

According to the report of the trustees of the National Gallery there have remained in their custody many thousands of drawings, forming part of the "Turner Bequest," which have been kept in eleven tin boxes in precisely the same state as that in which they were left by Mr. Ruskin after he had, with the approval of the National Gallery Board, selected a large number of examples for exhibition.

Early in the year these drawings underwent a specially careful examination by Mr. A. J. Finberg in the presence of the Keeper. They were disposed in about 300 parcels and classified by Mr. Ruskin in accordance with his theory of artistic value, 108 parcels being described as "entire rubbish," 121 as of "middling value," and 71 as "right in intention." For the purposes of this arrangement, and with the view of providing the best examples for exhibition, over 150 of the sketch-books, each consisting on an average of 100 pages, had been dismembered and the leaves separated.

This arrangement was not, however, found to be of any service for purposes of reference, and as Mr. Finberg's private researches showed that sufficient evidence existed for determining with considerable accuracy the chronological order of the drawings, the trustees, who had for a long time past been anxious to make more effective use of these sketches, felt that the opportunity should not be lost of engaging Mr. Finberg's services for a work which could not possibly be carried out by the staff of the Gallery unaided.

It was decided to undertake a chronological and descriptive inventory of all the unexhibited Turner sketches, and, after taking a record of Mr. Ruskin's classification by preference, to arrange the drawings in chronological order in cabinets designed for the purpose. It was found, after a month's trial, that, in order to make this rearrangement of the drawings of the greatest permanent value, it would be necessary to include in the proposed inventory the whole collection of exhibited and lent drawings belonging to the Turner Bequest, drawings which had never been systematically dated, and of which many had been wrongly described. This work, which is difficult and laborious, has already made substantial progress.

The Turner collection of paintings, placed in the custody of the National Gallery Trustees on September 25, 1856, contained, besides the pictures since hung in public exhibition rooms or in the official rooms at Trafalgar Square, or lent under the Loan Act of 1883 to provincial museums, a certain number of paintings which, on account of their unfinished or wrecked condition, it has never been thought possible to exhibit.

A more careful examination has lately led the Trustees to believe that some at least of these paintings may now be framed and take their place in the general collection. A selection has been made for this purpose, and of the paintings selected, at present twenty-two in number, many have been relined and all are in course of being surface cleaned and varnished. The following three paintings have been completed and framed, and will shortly be hung, with other examples by Turner, hitherto only shown to visitors on application, at the National Gallery of British Art:—No. 1,980, *Storm on a Rocky Coast*; No. 1,981, *Norham Castle*; No. 1,984, *Margate from the Sea*. The remaining paintings will be cleaned, framed and added to the above list as soon as possible.

TAYLOR ART SCHOLARSHIP.

The forty-seventh annual adjudication for the Taylor Art Scholarship for Irish students was held in Dublin, when the sum of 115*l*., arising out of Captain Taylor's bequest, was awarded in a scholarship of 50*l*., two prizes of 15*l*. each, two prizes of 10*l*. each, and a prize of 5*l*. in classes one, two and three, and also a special prize of 10*l*. for an optional work. The judges were Mr. Nathaniel Hone, R.H.A., appointed by the Royal Dublin Society; Sir Walter Armstrong, appointed by the Governors of the National Gallery of Ireland; Mr. Nassau Blair Browne, R.H.A., appointed by the Royal Hibernian Academy. Candidates for the scholarship and prizes were required to submit for examination a work in one of the following classes:—

Class 1, for painters—A composition or subject picture in oil or water-colour, size not larger than 36 by 28 inches, and not smaller than 24 by 16 inches. The subjects for 1906 were, for figure painters, "The Toilet," and for landscape painters, "A Windy Day."

Class 2, for modellers — A statuette not exceeding 36 inches in extreme height, illustrating a given subject. The subject for 1906 was "A Dancer." They were also required to submit a study of a head, life-size, in basso-relievo.

Class 3, water-colours—A prize not exceeding 10*l*. was offered for a work in water-colour, and the subjects were, "A Landscape," "A Garden at Evening," and, figure painters, "A Serenade."

Class 4, optional work—A special prize not exceeding 10*l*. was also offered for competition, the selection of the subject in art being left entirely open to the competitor.

Twenty-four works in all were submitted in competition, and the judges unanimously recommended the following awards:—

The scholarship of 50*l*. to work No. 3, entitled "The Toilet," executed by Wm. J. Leech, a student of Concarneau, Finisterre, France; a prize of 15*l*. was awarded to work No. 17, entitled "The Toilet," executed by Miss E. M.

Le Poer Trench, a student of the Royal Academy schools, London; and a prize of 15*l.* was awarded to work No. 21, a statuette, entitled "A Dancer," executed by Albert G. Power, a student in the Dublin Metropolitan School of Art; a prize of 10*l.* was awarded to work No. 4, entitled "The Toilet," executed by Miss Dorothy Moss Elvery, a student of the Royal Hibernian Academy; a prize of 10*l.* was awarded to the work No. 18, entitled "A Garden at Evening," executed by Miss Florence J. Gillespie, a student of the Metropolitan School of Art, Dublin; and the prize of 10*l.* for an optional work, entitled "Portrait Study of a Head," was awarded to Miss Mary Swanzy, a student at Miss Manning's school, Merrion Row, Dublin; a special prize of 5*l.* was awarded to work No. 15, entitled "The Toilet," executed by Maddison B. Fisher, a student of the Royal Academy, London.

SOCIETY OF ARCHITECTS.

ON Saturday, March 24, the members of the Council of the Society of Architects assembled at the Guildhall, where they were met by Mr. Alexander Ritchie, J.P., the chairman of the city lands committee and other members of the Corporation of London, and conducted over the historic building, being afterwards entertained to luncheon by Mr. Ritchie. Subsequently the visitors and their hosts adjourned to the new sessions house, where they were oined by a large party of members of the Society and their riends, including a number of ladies, who, by the kind permission of the City authorities, were enabled to view the buildings under the best possible conditions. Among those present were the president, Mr. Albert E. Pridmore, C.C.; Mr. R. F. Vallance and Mr. G. A. T. Middleton, vice-presidents; Mr. Ellis Marsland, hon. secretary; Mr. C. McArthur Butler, secretary; and some hundred and fifty members, on whose behalf a very hearty vote of thanks was accorded to Mr. Ritchie and the Corporation of London or the permission and facilities afforded them of seeing o interesting an example of modern architecture.

SHEFFIELD SOCIETY OF ARCHITECTS.

A PAPER was read by Mr. H. L. Paterson at the last meeting of the Sheffield Society of Architects and urveyors on "English Renaissance, 1750 to 1800." The ecturer said that this period was considered by some to be he closing one of the Renaissance, and by others the commencement of strictly modern architecture. It had been igorously denounced by the leaders of the Gothic revival st century, and it was almost universally held to be the eriod of the Renaissance least worthy of study. There was, owever, no doubt about the high estimation in which it as held at the time; architects and public were agreed in garding it as the greatest architectural age since the days Imperial Rome. The principles of that architecture as terpreted by Palladio and others were considered binding r all time, and no further development was desirable. Mediæval architecture was almost ignored, although Chambers expressed great admiration for it, without, however, taking any steps to revive it. Chambers was the most ltured exponent of the style and the most worthy of udy, but his violent prejudice against Greek detracted omewhat from the value of his counsels.

The latter half of the eighteenth century was a period of reat national prosperity, in spite of the wars and revolu-ns that involved nearly the whole of Europe. Many of ur finest mansions were erected or remodelled, and much the work was in the hands of a small number of archi-ts. The order was essentially the basis of design in this iod, and dominated not only the elevations, but the plans. obtain a dignified external order people were willing to rifice internal convenience. The type of house which d already been developed, and of which Castle Howard, nthill and others were examples, gave place towards the d of the century to the self-contained plan of the Brothers am and others. Slides were shown illustrative of the ferent types. The treatment of interiors was next touched on and the introduction of the Adams style of decoration strated.

One of the main features of this period was the great ention paid to street design, notably in the West End of ndon, in Edinburgh and in Bath. In Bath the development of the city, which had been largely in the hands of od, sen., was continued by his son. The works of Wood, jun., were then illustrated by slides which had kindly been placed at the disposal of the lecturer by Mr. Mowbray A. Green, the author of "The Eighteenth-Century Architecture of Bath." The architecture of the new town of Edinburgh was also illustrated, and it was stated that both in the planning of the city as well as in the style of architecture, Edinburgh and Bath had much in common.

The treatment of gardens was referred to, and it was stated that the landscape garden had almost entirely taken the place of the old formal garden, and that a great feature was made of the casinos, temples and ornamental bridges. At the close of the century the Greek influence was making itself felt in design, and soon outstripped in popularity the eighteenth-century style. The style of Chambers, however, continued to be used throughout the whole of the Greek revival, and even through the Gothic revival down to the present time. The lecturer concluded by claiming for the later Renaissance style generally an adaptability to almost all classes of buildings, and pointed out that whatever was the fashion in architecture, this style never lost its charm, if reasonably handled, and that it was the architecture of the greater part of the civilised world.

CHARLES MERYON.

WITHIN the past few days there has changed hands in London for the phenomenally high price of 420 guineas one of the etchings of Charles Meryon, the master of the needle who died at Charenton early in 1868, and was buried in the cemetery of the asylum. No Whistler etching even has come anywhere near that sum. The unique dry-point study "My Mother" by the butterfly genius was privately sold a year or two ago to Mr. Freer, of Detroit, for about 200*l.*, and at auction the "Ross Winans" has made as much as 136*l.* From time to time there has been a good deal of discussion as to Meryon's family, but there can be no doubt, says the *Sussex Daily News*, that his father was Charles Lewis Meryon, of Rye, who belonged to an old Huguenot stock. Dr. Meryon, of Rye, was educated at the Merchant Taylors' school and afterwards studied medicine at St. Thomas's under Henry Cline, upon whose recommendation he was, in 1810, engaged to accompany the eccentric Lady Hester Stanhope on a voyage to Syria and the East in the capacity of medical attendant. Meryon has described with the utmost minuteness Lady Hester's complicated oriental environment, her tyranny, her interminable conversation and cross-questionings, of which he was often a victim. In the third volume of the "Memoirs" is a portrait of Dr. Meryon in Bedouin dress.

Charles Meryon, the great etcher, was born in Paris in 1821, the year that the doctor was admitted to Fellowship of the College of Physicians. His mother, Pierre Narcisse Chaspoux, was a dancer at the Paris Opera House. All the artist's biographers accept the now admitted paternity of the Sussex doctor. That being so it is interesting to recall that Dr. Meryon's father, Mr. Lewis Meryon, of Rye, published about 1810 a description in verse of the contents of a stationer's shop, so that a certain amount of artistic impulse came to him from that direction. Charles went to school at Passy, was afterwards taken by his mother to the South of France, in 1837 went to the naval school at Brest, and two years later went to sea. In all he produced about 100 etched plates, of which the famous Paris set of 1851-4 is far and away the most important. He sold his etchings often for very small sums, and by 1858 the mental disease which for long had threatened became acute, but lifted again on coming in intimate contact only with a few people. It appears that his father and a maternal aunt and a cousin, Dr. Meryon, did all in their power to supply wants which the artist could be brought to confess. No doubt because of his English ancestry, there were presented to the British Museum in 1904 over 200 of his pencil drawings belonging to his sailor period, the mid-1840's.

Our immediate concern is to point out the great rise in the money value of the finest of Meryon's etchings. His masterpiece is "L'Abside de Notre-Dame de Paris," a view of the great church from the Pont de la Tournelle, with on the left the Pont aux Choux and the Hôtel Dieu. There is no modern etching more nobly planned, more exquisitely lighted, more tender and radiant and imaginatively just. Only about ten or twelve impressions of the plates in the first state, before any letters, are known. One of these was sold by Meryon for 1.50 franc (1*s.* 3*d.*), as an existing receipt testifies. That same proof changed hands in the 1890's for 125*l.* Burty, one of his firm supporters who owned a collection that would now be priceless, and compiled a catalogue of the etchings, mentions two trial proofs of the wonderful "Abside." One of these, on light green paper, which, if we mistake not, had belonged to Sir Seymour Haden, was in Bond Street in 1902, when it was sold for 300*l*., then regarded as a preposterous figure. But time has proved that the valuation was a moderate one. An excellent first state, with Meryon's inscription to M. Charles Bradier, has recently emerged from a home collection, only to pass into another for 441*l*. America was keen to buy, but the cable came too late.

Other famous plates by Meryon, who has not ineptly been called the Chopin of the needle, are "La Galerie de Notre-Dame," a vision of sunlit pillars in the mother church at Paris, a second state of which has fetched 56 guineas at auction; the grim view of "La Morgue," second state, 86 guineas; the view of the portico of St. Etienne du Mont, 58 guineas; the "Pont au Change," which underwent so many alterations, 50 guineas; and "La Pompe de Notre-Dame," showing the fretted roof of the cathedral and the timbers of the engine-house, 40 guineas. Most wonderful of all in many respects is "Le Stryge," the monster that dominates the tower of St. Jacques. The etching has an inscription in Gothic letters:—

> Insatiable Vampire, l'éternelle Luxure
> Sur la Grande Cité convoite sa pâture.

The monster typifies the agony which assailed Meryon's inward being. He said:—"The monster is mine . . .; he means stupidity, cruelty, lust, hypocrisy; they have all met in that beast." It is a terribly explicit vision of the vampire brooding with gluttonous greed over "La Ville Lumière." The "Abside" is the other more enduring aspect of the city's spiritual life. In a Scottish collection are many of the exquisite original drawings made for the etchings.

ROYAL SCOTTISH ACADEMY.

We mentioned last week that at a general assembly of the Royal Scottish Academy three Associates were elected, viz.:—Painter, Mr. R. M. G. Coventry, Glasgow; sculptor, Mr. Percy Portsmouth, Edinburgh; and architect, Mr. James Miller, Glasgow.

According to the *Scotsman* the voting for the painter Associate was:—First vote—Coventry, 13; G. Stratton-Ferrier, 5; Skeoch Cumming, 4; W. M. Frazer, 3; Fiddes Watt, 3; George Smith, 2; John Lochhead, 2; Peter Wishart, 2.

In the second vote the numbers were:—Coventry, 34; Stratton-Ferrier, 9; Cumming, 4; Frazer, 4; Watt, 3; Smith, 3; Lochhead, 3; Wishart, 2; and David Gauld, Glasgow, 2. Votes were also recorded for James Riddel, P. Downie, Glasgow; Whitelaw Hamilton, J. A Ford, Duddingston Herdman, Graham Glen, Robert Hope, Marshal Brown and A. Kay, Glasgow.

The voting for the sculptor was:—First vote—Portsmouth, 24; H. S. Gamley, Edinburgh, 17; Kellock Brown, Glasgow, 6; W. Hubert Paton, Edinburgh, 5. The second vote was—Portsmouth, 17; Gamley, 16; Brown, 6. Final vote—Portsmouth, 24; Gamley, 19.

For the architect the voting was:—First vote—Miller, 11; Keppie, Glasgow, 11; Campbell, Glasgow, 8; MacIntyre Henry, Edinburgh, 7; T. D. Rhind, Edinburgh, 5; Tarbolton, Edinburgh, 4; Hunter Crawford, Edinburgh, 4; and James Dunn, Edinburgh, 2. The second vote was—Miller, 20; Keppie, 9; Campbell, 10; Henry, 11. The third vote was—Miller, 24; Campbell, 10; Henry, 13. The final vote was—Miller, 29; Henry, 13.

The following biographies are given:—Born in Bridgeton, Mr. R. M. G. Coventry comes of a Glasgow family, and spent his early days in the not very artistic surroundings of mills and factories. As a lad he was apprenticed as a designer, but commerce had for him no attractions, and when only sixteen years of age he was already struggling for recognition in the world of art. At the age mentioned he began to contribute both landscape and figure subjects to the Glasgow Institute, the exhibitions of which were then held in the Corporation Galleries. He was also a student of the Glasgow School of Art. By the time he reached the age of twenty-one he had quitted office work and set out boldly on his artistic career. About twenty years ago he went to Paris, where he studied under Bouguereau and Fleury, and on his return to Scotland he became a regular contributor to the Glasgow Institute, and occasionally was represented at the Royal Scottish Academy. He was also elected a member of the Royal Scottish Water-Colour Society. Of his three paintings in the Glasgow Institute this year, a notably fine one is a seascape at Portsoy. He has, in water-colour especially, painted quite a number of Dutch landscapes in brilliant tints.

Mr. Portsmouth was born at Reading in 1874, and received his early art education at the Oxford University Extension College under the direction of Mr. Walter Crane. After a short stay in Paris and Brussels he went to London to study under Professor Lanteri. He has been a regular exhibitor at the Royal Scottish Academy, the Glasgow Institute of Fine Arts and the Scottish Society of Artists, of which last-named Society he is a member. He has also been an exhibitor at the Royal Academy's exhibitions. Mr. Portsmouth's chief and most recent works include his figure of "The Captive," which is shown in this year's exhibition of the Royal Scottish Academy; his life-size figure of "Mirth," which was exhibited at last year's Academy, and a frieze representing "Labour." Besides "The Captive" Mr. Portsmouth exhibits in this year's Academy a bust of Master Edmund Findlay, son of Mr. John R. Findlay, of Aberlour. His exhibits at the Glasgow Institute of Fine Arts this year include a statuette entitled "Hermo Satyr," a bust of Mr. John Spence Smith and a medallion entitled "In Memoriam." Mr. Portsmouth, whose portrait-busts have always been considered very successful, has done a great deal at the Edinburgh School of Art to foster the study of sculpture as a necessary part of art education.

Mr. James Miller, the new architect Associate, is a Perthshire man. He was educated at Perth Academy, and served his pupilage to the architectural profession with Messrs. Heaton, Perth. Subsequently he went to Edinburgh, and for part of the time there was with Mr. Hippolyte J. Blanc, R.S.A., F.R.I.B.A. Removing to Glasgow, he was engaged by the Caledonian Railway Company to carry out architectural work in connection with several of their stations, notably Gourock station and Bridge Street station, Glasgow. In 1893 Mr. Miller began practising on his own account, and since then his name has come prominently before the public as an architect of much attainment. Among the more notable buildings erected to his designs in the last few years have been the Glasgow International Exhibition of 1901 and Clydebank Municipal Buildings, and he has at present on hand the new Hydropathic at Peebles, Glasgow Royal Infirmary, large extensions of Glasgow University, a fine hotel for the Glasgow and South-Western Railway Company at Turnberry, large official buildings for the Caledonian Railway Company in Union Street, Glasgow, and an important addition to the Central Station hotel. He has also been appointed by the Cunard Steamship Company as advisory architect for the interior decoration of their latest turbine express leviathan building at Clydebank. Five years ag Mr. Miller was elected a Fellow of the Royal Institute o British Architects, and he is a member of the Glasgov Institute of Architects.

TESSERÆ.

Influence of Byzantium.

Whatever share the city of New Rome took i actually producing works of industrial art unde her emperors, she was at least the foster-mother of thos arts for all Mediæval Europe, and from her came th influence which brought about the new art of Europ whose origins are obscure enough till they met and fuse at Constantinople into a style which for centuries after wa world-wide. This was natural enough. Looked upon a an European city, Byzantium was for long the only great ci of Europe that was really alive and dominant. In pea and war, as a mistress or an enemy, she dealt with all th great birth countries of art and letters—nay, of human lif India, Mesopotamia, Syria, Persia, Asia Minor, Egypt, th ideas and arts of all these countries touched her a mingled with the remains of the older art of Greece, fro which the academicalism of the long Romano-Greek peri had not crushed out all the life, sorely as it had weigh upon it. Byzantium, then, the Byzantium of Justinian a onwards, we must look upon as the capital of the industri arts from the sixth to the thirteenth century.

Antique Saws.

The saws of the Grecian carpenters had the same for and were made in the like ingenious manner as ours are present. This is fully shown by a painting still preserv among the antiquities of Herculaneum. Two genii a represented at the end of a bench, which consists of a long table that rests upon four-footed stools. The piece of wood which is to be sawn through is secured by cramps. The saw with which the genii are at work has a perfect resemblance to our frame-saw. It consists of a square frame, having in the middle a blade, the teeth of which stand perpendicular to the plane of the frame. The piece of wood which is to be sawn extends beyond the end of the bench, and one of the workmen appears standing and the other sitting on the ground. The arms, in which the blade is fastened, have the same form as that given to them at present. In the bench are seen holes, in which the cramps that hold the timber are stuck. They are shaped like the figure seven, and the ends of them reach below the boards that form the top of it. The French call a cramp of this kind *un valet*. Montfaucon also has given the representation of two ancient saws taken from Gruter. One of them seems to be only a blade of a saw without any frame, but the other resembles a cross-cut saw. One may, however, perceive both the handles between which the blade is fastened; the wooden bar that binds them together, though the blade is delineated too near it; and about the middle of this bar, the piece of wood that tightens the cord which keeps the handles as well as the whole instrument firm. Saws which were not placed in a frame, but fastened to a handle, were described by Palladius.

Pompeiian Temples.

An essential feature in the temples of Pompeii, as distinguished from those of Greece, is to be observed in the podium, or basement, on which they were elevated. In the religious edifices of an early age no such character appears. They were placed upon two or three steps only, if steps they should be termed, when evidently not proportioned for convenience of access to the interior, but calculated rather with a view to the general effect of the whole structure. By thus raising the floor to a level with or above the eye, the whole order, from the stylobate, or continuous platform on which the columns rest, to the roof was brought at once into view. The steps, Vitruvius says, should be of an odd number, that the right foot, being planted on the first step, may also first be placed on the pavement of the temple. To enter with the left foot foremost was considered unlucky. With regard to the proportions of the interior within the porticoes, the breadth is directed to be half the length, and the cell to be a fourth part more in length than in breadth. The building is directed to stand east and west like our churches, and the statue of the presiding deity to be elevated above the altar, that the suppliants and priests might decently look up to the object of their worship. Thus an hypæthral temple would present a most splendid scene, the worshippers addressing their vows, the image apparently rising to behold them, and the building itself boldly projected on the eastern sky. It will be recollected that these are merely the rules laid down by Vitruvius. It does not follow that they were always observed.

Reynolds's Palette.

Sir Joshua's usual dead colouring was what is commonly termed black and white, a little red only being used, and no yellow in the first process. Sometimes it was lake, black and white; sometimes red lead, black and white, with vermilion occasionally; sometimes asphaltum and white, with vermilion and black; sometimes umber and white, or Vandyke brown and white, with blue and red; and sometimes lake and yellow and white without red. There were few heads which he did not glaze, either with lake and transparent yellow, with vermilion used thinly as a stain, with asphaltum or lake and asphaltum, with yellow ochre, orpiment or Naples yellow used transparently, or with black and red or blue and red as his picture might require. In most of his preparations blue or blue-black were used, and not black alone. The object of all these different modes of beginning was brilliancy and transparency of colour, which he soon discovered could not be acquired by using many colours at a time; such as were deficient in the first preparation were therefore added in the subsequent ones, but always, it must recollected, in such a manner as to allow the preparation beneath to appear more or less through what was passed over it, particularly in the half-tones. It signifies little whether a head be begun with red or with yellow, for both colours are found in some proportions in flesh, but they cannot be used together, unless by a very skilful hand, without destroying in some degree the purity of both. The red preparation passed over with yellow or the yellow one passed over with red would produce under proper management the same effect. Transparency is all that is necessary, in a greater or less degree as required, and, provided the one colour appear through the other, it is of little importance which is used first. Glazing, of course, must always be regulated by the state of the picture to which it is applied, and the transparent colour which may be proper for one could not perhaps be used with propriety in another. Sir Joshua's vehicles were mostly varnish and wax and varnish, sometimes copaiva and wax, and occasionally wax alone dissolved in turpentine and thinned with the same as required. Over these he sometimes finished in oil or copaiva, either alone or mixed with wax, and sometimes with varnish or wax and varnish as he began. He would sometimes begin with oil and finish with Venice turpentine and wax, or wax and varnish, painting hard-drying substances over soft ones, and soft over hard, indiscriminately; nor did he ever dream of the consequences of doing so till the cracking of his pictures made them manifest.

Roubiliac and Johnson.

Roubiliac, the sculptor, desired of Sir Joshua that he would introduce him to Dr. Johnson at the time when the Doctor lived in Gough Square, Fleet Street. His object was to prevail on Johnson to write an epitaph for a monument on which Roubiliac was then engaged for Westminster Abbey. Sir Joshua accordingly introduced the sculptor to the Doctor, they being strangers to each other, and Johnson received them with much civility and took them up into a garret, which he considered as his library, in which, besides his books, all covered with dust, there was an old crazy deal table and a still worse and older elbow-chair having only three legs. In this chair Johnson seated himself, after having with considerable dexterity and evident practice first drawn it up against the wall, which served to support it on that side on which the leg was deficient. He then took up his pen and demanded what they wanted him to write. On this, Roubiliac, who was a true Frenchman, as may be seen by his works, began a most bombastic and ridiculous harangue on what he thought should be the kind of epitaph most proper for the purpose; all which the Doctor was to write down for him in correct language, when Johnson, who could not suffer any one to dictate to him, quickly interrupted him in an angry tone of voice, saying, "Come, come, sir, let us have no more of this bombastic, ridiculous rhodomontade, but let me know in simple language the name, character and quality of the person whose epitaph you intend me to write."

Pembroke Churches.

The Pembrokeshire type of parish church is found, as a rule, only within the English-speaking districts of the county, and no specimens are found within those districts on the shores of St. Bride's Bay. Their main features are tall and slender towers, generally diminishing as they rise, a general rudeness of masonry, and internally much vaulting, with side chapels and squints, and many holes and corners, and a general effect of cavern-like obscurity. Of these churches a more typical example cannot be found than Manorbier, near Tenby. They are very peculiar, but more in their general tone and effect than in any particular details. Unhappily the hand of the restorer has been somewhat busy among them, and it is not always easy to make out how much one is to believe of what one sees.

GENERAL.

Mr. Charles Nicolls Woolnoth, R.S.W., died last week at his residence, 3 Kelvingrove Terrace, Glasgow. Mr. Woolnoth, who had been in failing health for some time, had attained the age of ninety years. He was one of the founders of the Royal Scottish Society of Painters in Water-Colours, of which Sir Francis Powell is president, having become a member in March 1878.

Mr. T. G. Jackson, R.A., Mr. Francis Fox (the consulting engineer), Mr. J. B. Colson (the cathedral architect and surveyor) and Mr. Walter Hill (managing director of the contractors, Messrs. Thompson & Co., of Peterborough), after a consultation at Winchester Cathedral, decided to continue the present steam-pumping operation.

The Glasgow Society of Artists will hold an exhibition in November this year in the Royal Glasgow Institute's galleries. They held a very successful exhibition in the Doré Gallery, London, last year, so that it will be two years since their previous show in Glasgow.

The Headmastership of the York Art School recently became vacant, and the Corporation, ignoring the education committee's recommendation, passed a resolution appointing Mr. Windass, who was formerly a member of the teaching staff of the school, to the position, at a salary of 300*l.* The education committee, on Friday, passed a resolution declaring the Council's appointment to be *ultra vires*, and deciding to ignore it. Leave will be asked to advertise the vacancy.

The City Engineer of Norwich, in his annual report, states that, for purposes connected with sewers, the supply of electricity, gas and so forth, the streets were broken up on the average in seventy-two places during every week of 1905. The engineer makes the following comment:—"It is impossible to maintain streets in convenient and good condition where subject to such treatment, but in progressive towns there is no available way of avoiding it. The subways often proposed are quite out of the question for general use."

The Leeds and Yorkshire Architectural Society at their meeting on the 22nd inst. elected the following officers for the ensuing session:—President, Mr. H. S. Chorley, M.A. (A); vice-presidents, Messrs. P. Robinson (F) and S. D. Kitson, M.A.; hon. treasurer, Mr. C. F. Bowman; hon. librarian, Mr. F. Musto (A); hon. secretary, Mr. A. E. Kirk (A); members of Council, Messrs. W. G. Smithson (A), F. E. P. Edwards (F), C. B. Howdill (A), H. A. Chapman (A), A. R. Hill (A), and G. E. Reason (assoc. member). Mr. W. H. White read a paper on "Modern Town House Architecture."

The Institute of Engineers and Shipbuilders in Scotland at the last meeting in Glasgow considered competitive designs for the new premises to be erected at the corner of Elmbank Street and Elmbank Crescent. Fifty-one designs were sent in. The plan by Mr. John B. Wilson, 92 Bath Street, Glasgow, was accepted. The design of Messrs. Mitchell & Whitelaw, Glasgow, was placed second, and received a premium of 76*l.*; that of Mr. H. E. Clifford, Glasgow, third, with a premium of 50*l.*; and that of Mr. W. F. M'Gibbon, Glasgow, fourth, with a premium of 25*l.* The building as designed by Mr. Wilson is estimated to cost, when complete, about 25,000*l.*

An Exhibition of works by members of the French National Society of Fine Arts will be held in the Château of Bagatelle shortly. No work will be received which was produced later than 1896. A third of the receipts will be given to the Municipality of Paris for the purchase of works of art.

The Borough Surveyor of Chelsea, by direction of the works committee of the Council, has submitted a scheme for the extension of the Chelsea Embankment west of Battersea Bridge by 400 or 500 yards. The committee recommend the Council to transmit a copy of the plan to the London County Council, and to again urge that body to arrange for the carrying out of the scheme as a metropolitan improvement.

A Privy Council announcement in the *London Gazette* states that petitions have been presented to the King in Council by the Marquis of Bute and others, praying for the grant of charters for the creation of a national museum for Wales and of a national library for Wales. His Majesty has referred the petitions to a committee of the Lords of the Council, and all petitions for or against such grants should be sent to the Privy Council Office on or before April 23.

Mr. D. G. Hogarth has in preparation for the Trustees of the British Museum a monograph on the exploration of the site of the Temple of Artemis, at Ephesus. Mr. Hogarth has been in charge of the explorations at this place which have been carried on on behalf of the Trustees during the past two seasons.

The Council of the Surveyors' Institution have accepted an invitation from the Warwick and Worcester provincial committee to hold their next country meeting at Birmingham on May 24 and 25. Visits are being organised to Warwick, Stratford-on-Avon, Kenilworth and Worcester.

The Project to erect a statue of Thomas Carlyle in Edinburgh has been abandoned owing to an insufficiency of contributions. It is proposed to fix a brass tablet in St. Giles's Cathedral.

A Scheme has been prepared for the reconstruction of the Grammar school of Newark, which was founded by Archdeacon Thomas Magnus of York in the fourteenth century. The cost is estimated at 10,000*l.*

Mr. Albert E. Bullock, A.R.I.B.A., has opened offices at 5 John Street, Bedford Row, London, W.C.

We are informed that the partnership existing between Mr. William A. Pite, F.R.I.B.A., and Mr. R. S. Balfour has been dissolved as and from February 24 last.

An Arts and Crafts Exhibition is to be held at Alderley Edge on four days in the first week of May, with the object of offering "some tangible inducement to all classes, especially the younger portion of the population, to cultivate some useful, artistic or interesting hobby as an employment for winter evenings." Prizes amounting to 100*l.* are offered in 152 classes.

Mr. J. C. McConachie, a Glasgow artist, was found dead in his studio in Bath Street, Glasgow, on Monday. There was a cut on his right arm and another on his right ankle.

A Committee of the Birmingham Corporation recommend that the successor to the late Mr. Price as city surveyor and engineer should not be paid less than 1,250*l.* per annum. Candidates are to be sought by advertisement.

The New Buildings for the Cork Young Men's Association were opened on Monday. Arrangements have been made in the planning to allow of the annual synod of the diocese and other work being transacted there. The architects are Messrs. W. H. Hill & Son.

Mr. Herbert Jones, F.S.A., president of the Greenwich Antiquarian Society, is superintending the excavations now being made in Greenwich Park with the view of adding to the discoveries of Roman remains which have been made there from time to time.

The Collection of twenty-two pictures by Corot formed by the late Mr. Staats Forbes will be exhibited at the Leicester Galleries, Leicester Square, for a few weeks from Saturday, March 31, when it will be dispersed. The exhibition will include pictures by the other painters of the Barbizon School.

The Leeds Corporation have applied for authority to sanction the borrowing of 300,000*l.* for street improvements. It appears that 141,370*l.* of the amount has been already expended without any authority.

A House of Lords Committee have approved of the Bill which authorises the Manchester Ship Canal Company to seek for minerals beneath the Manchester Ship Canal.

A Proposal has been made which is likely to be accepted, that engineering students of the University of Birmingham should go through a course of accounting in the commercial department.

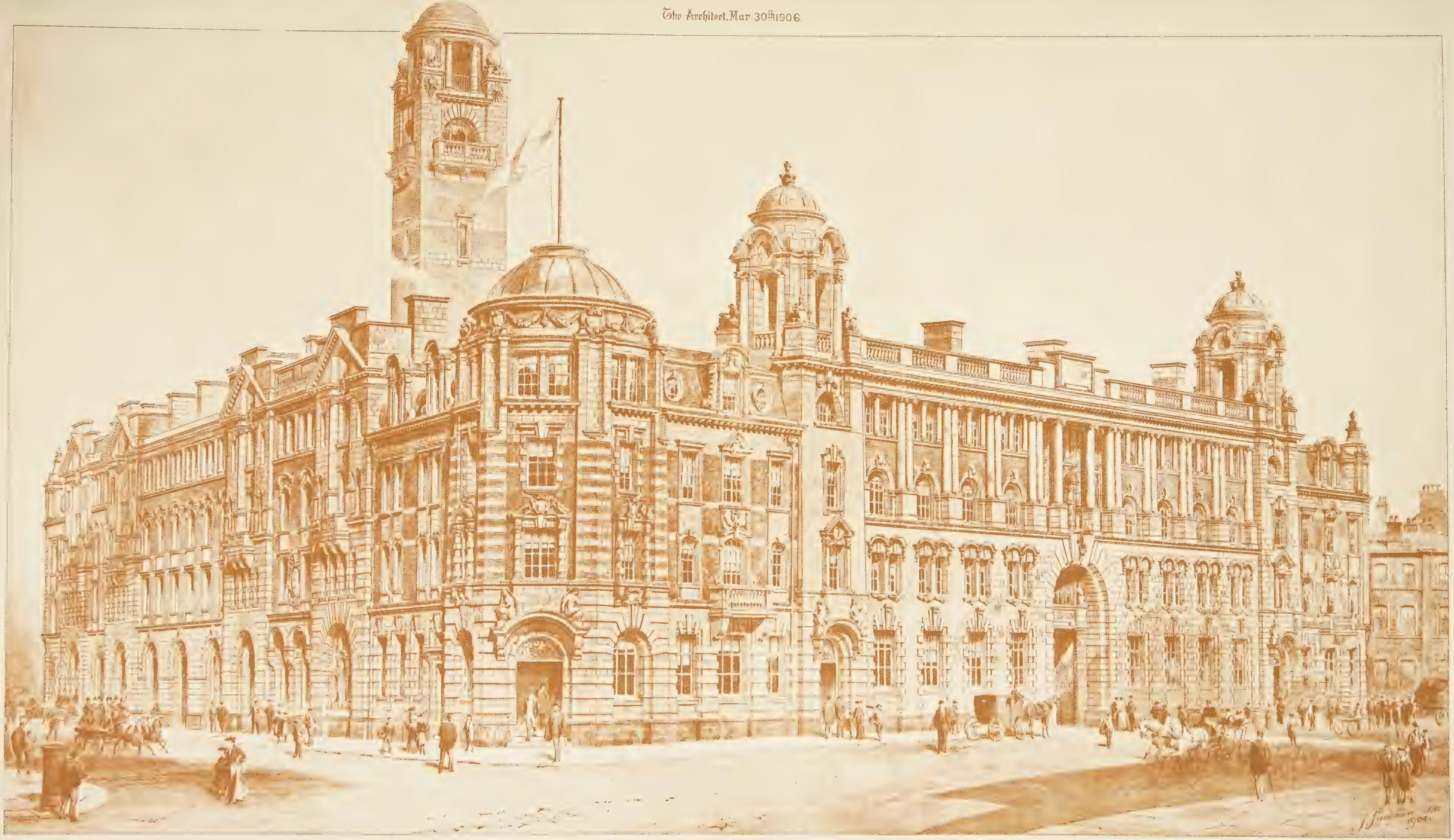
The Spring Exhibition at the Whitechapel Art Gallery, which illustrates "Georgian England," was opened on Wednesday, the 28th inst., and will close on May 9. Admittance is free. Among the special points of interest may be mentioned a large number of pictures by Hogarth, Zoffany, Gainsborough, several by Reynolds, Brown, Ruskin, Hoppner, &c.

An Appeal is being made for funds for the restoration of the ancient church of St. John the Baptist, Coventry. There is urgent need of a thorough restoration of the exterior, the stone used for its repair in 1877-9, by Sir Gilbert Scott, having proved peculiarly sensitive to weather and climatic conditions. The church, which is one of the most perfect specimens of Late Decorated and Early Perpendicular architecture, dates from 1350. Messrs. Bucknall & Comper, architects, Westminster, and Messrs. Thompson & Sons, contractors, of Peterborough, after a careful examination came to the opinion that a thorough restoration of the exterior of the church is necessary, at an estimated cost of about 4,500*l.*

The Church of St. Michael, Burleigh Street, Strand, which was designed by Mr. James Savage in 1833, was sold by auction on Tuesday for 20,500*l.* A condition of purchase was that the remains of the building should be taken down and removed by the purchaser. The site was described as a most important one, having frontages of about 142 feet, occupying an area of 4,450 square feet.

The Norwich Town Council have resolved that the salary of Mr. A. E. Collins, city engineer, be advanced from 800*l.* by annual increments to 900*l.*, that official to devote his whole time to the duties of his office, his private practice, both direct and indirect, to be absolutely discontinued, except that he should be at liberty to advise the Port and Haven Commissioners. It was also provided that, subject to the consent of the general purposes committee, he be allowed to give expert assistance to other municipalities, the fees so received to be paid into the borough funds.

STATION



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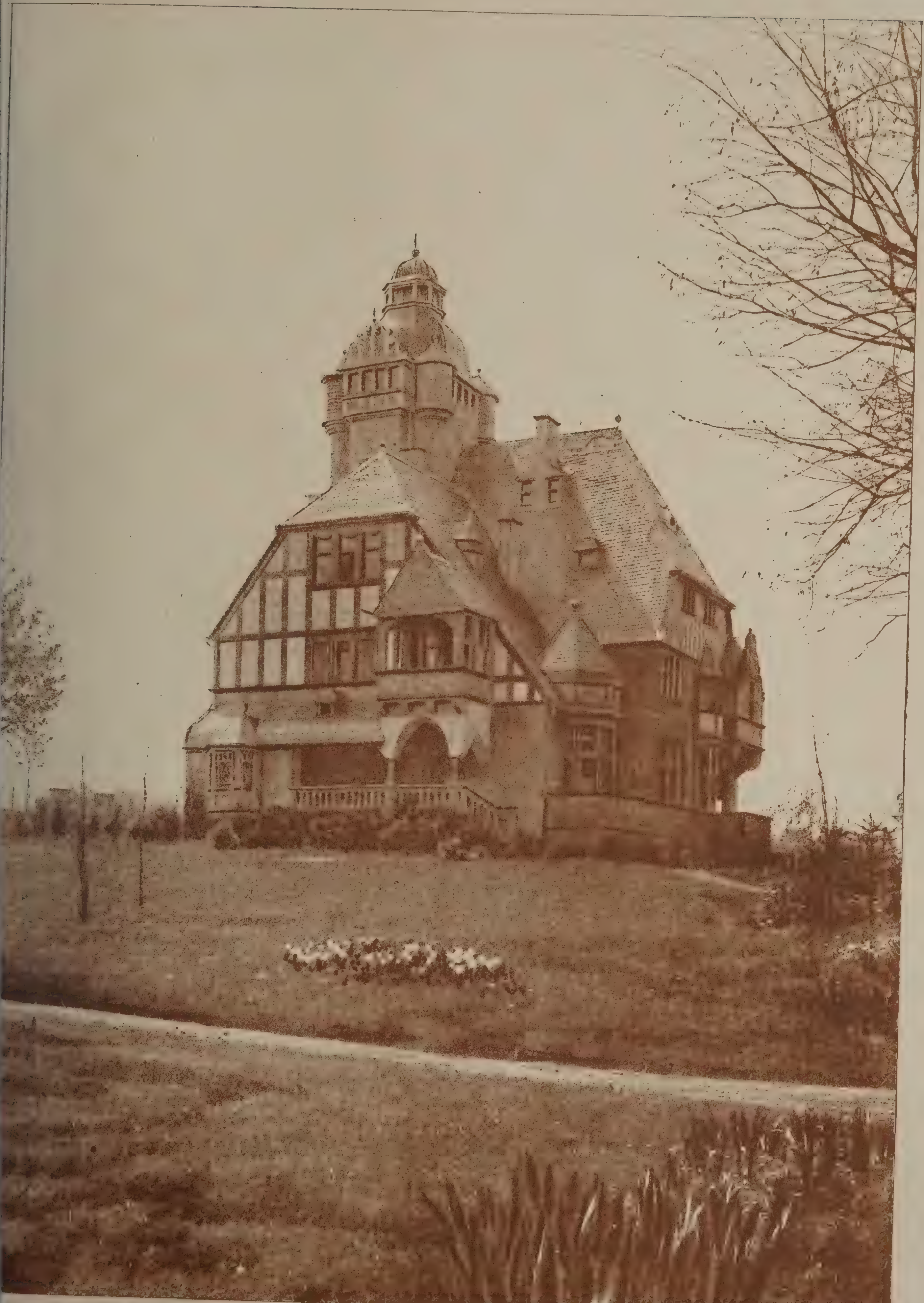
CITY OF MANCHESTER NEW FIRE STATION

Messrs. WOODHOUSE, WILLOUGHBY & LANGHAM, Architects.



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VILLA CASTENHOLZ, INSEL OBERWERTH, COBLENZ.

WILLY BOCK, Architect.

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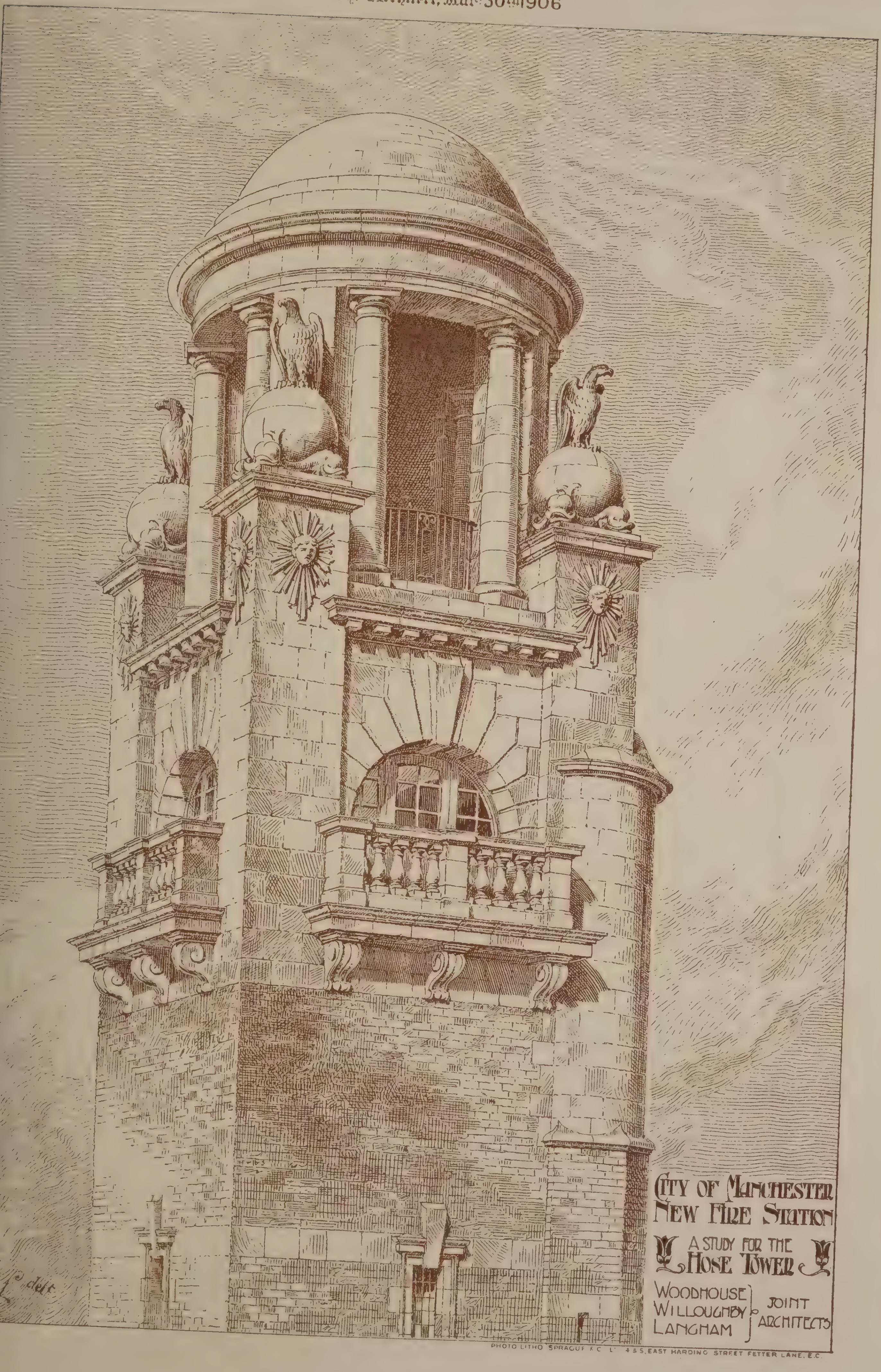

CITY OF MANCHESTER
NEW FIRE STATION

A STUDY FOR THE
HOSE TOWER

WOODHOUSE
WILLOUGHBY
LANGHAM
JOINT
ARCHITECTS

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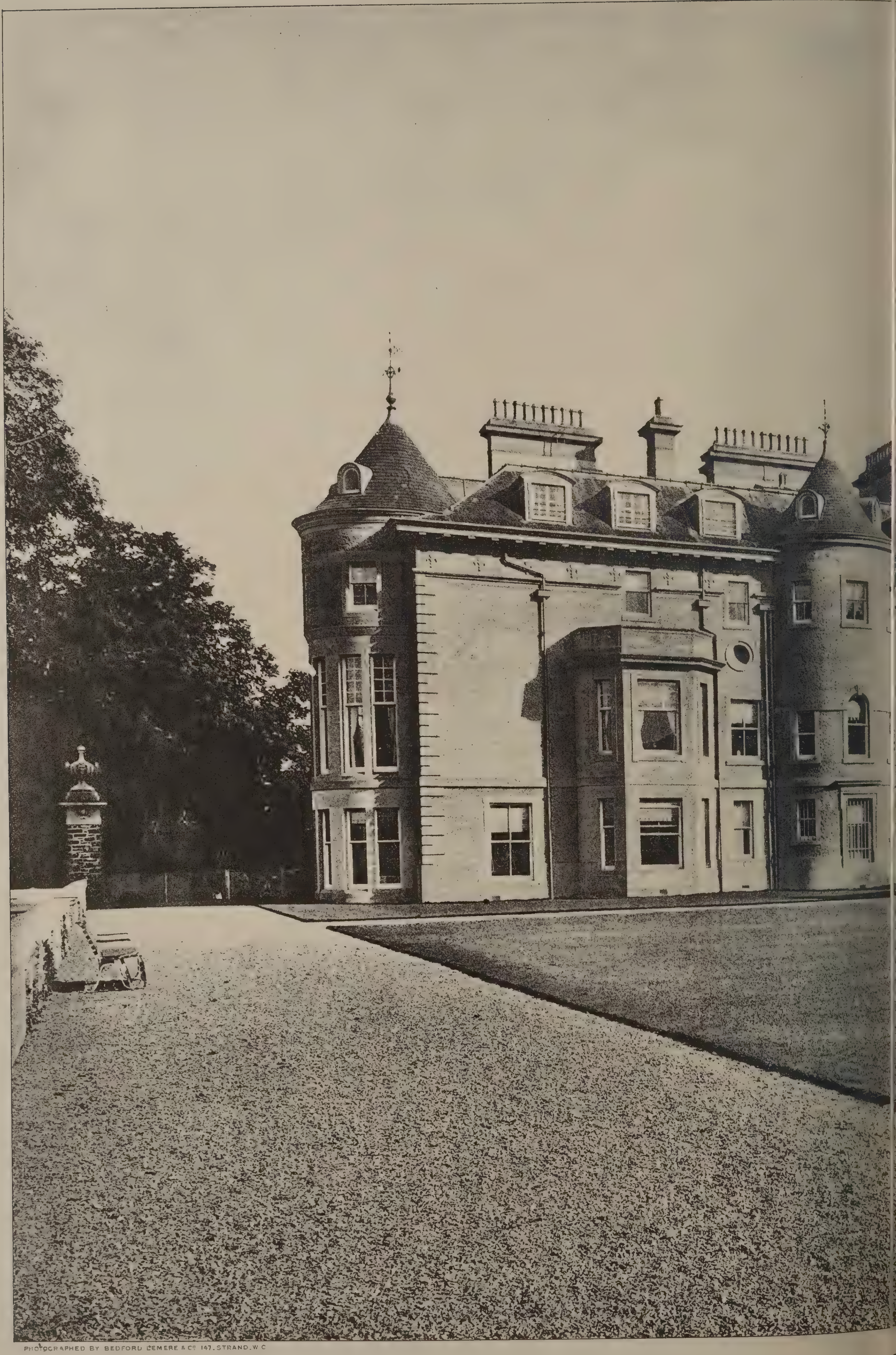

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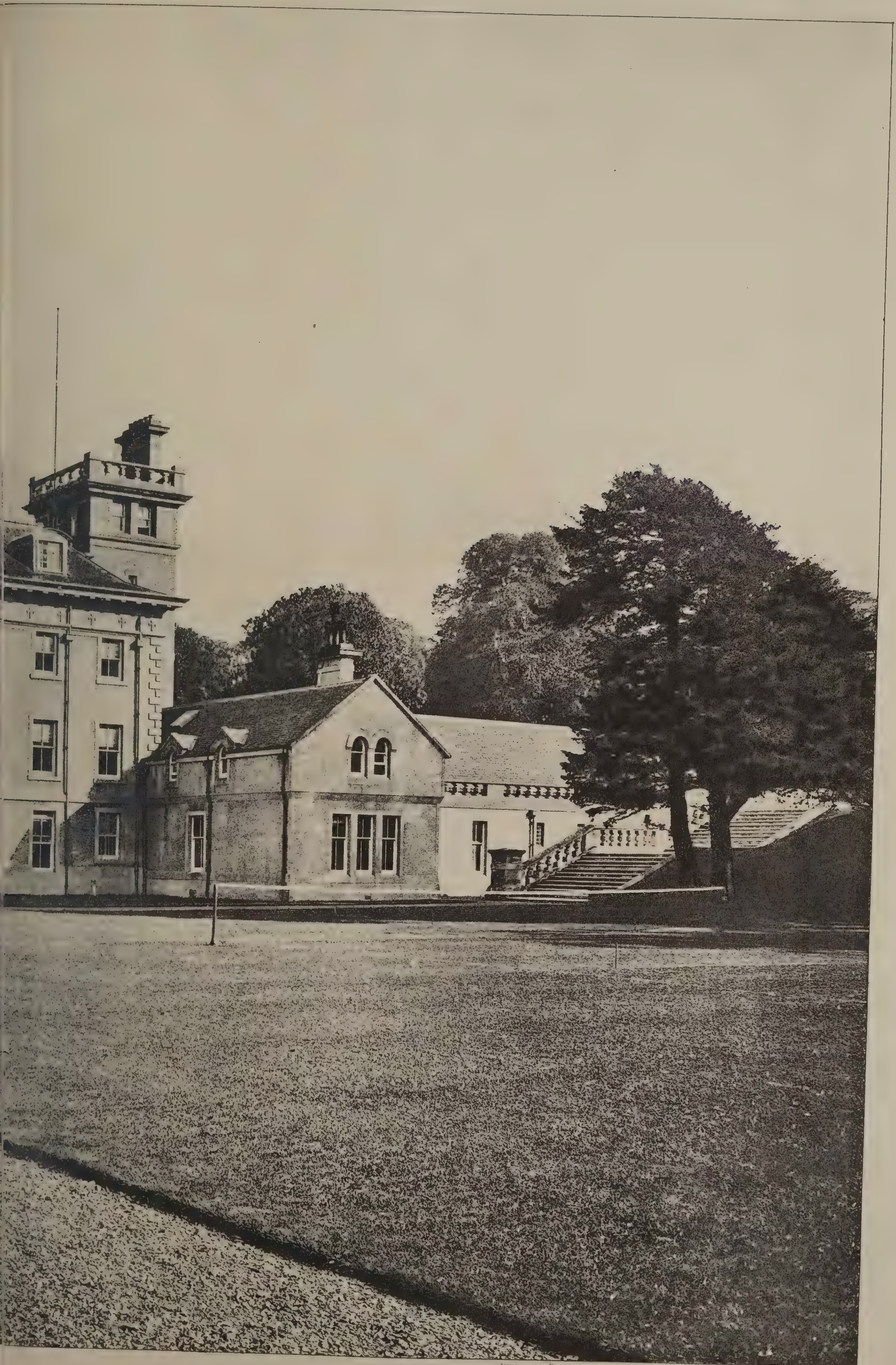

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Architects.

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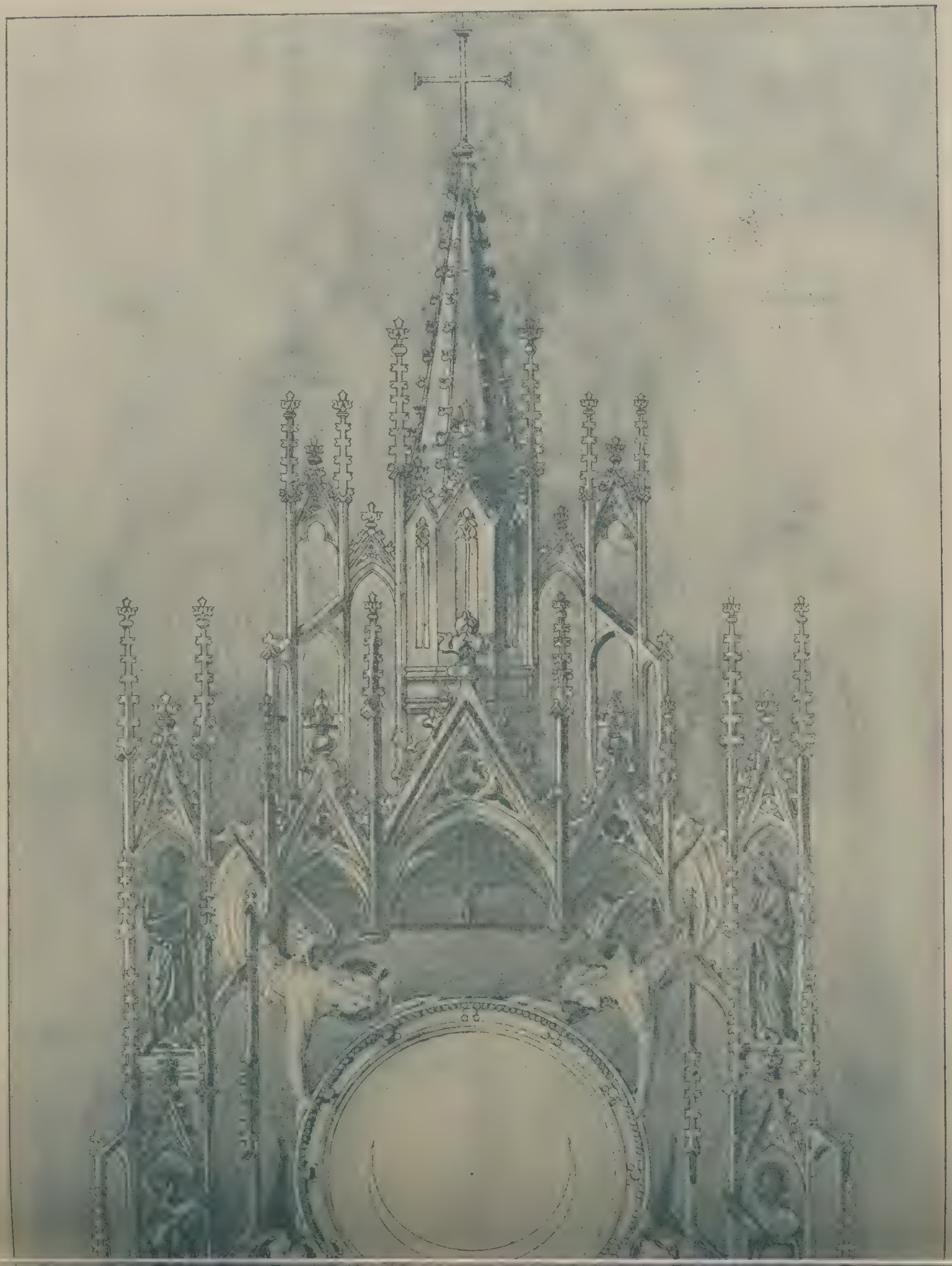

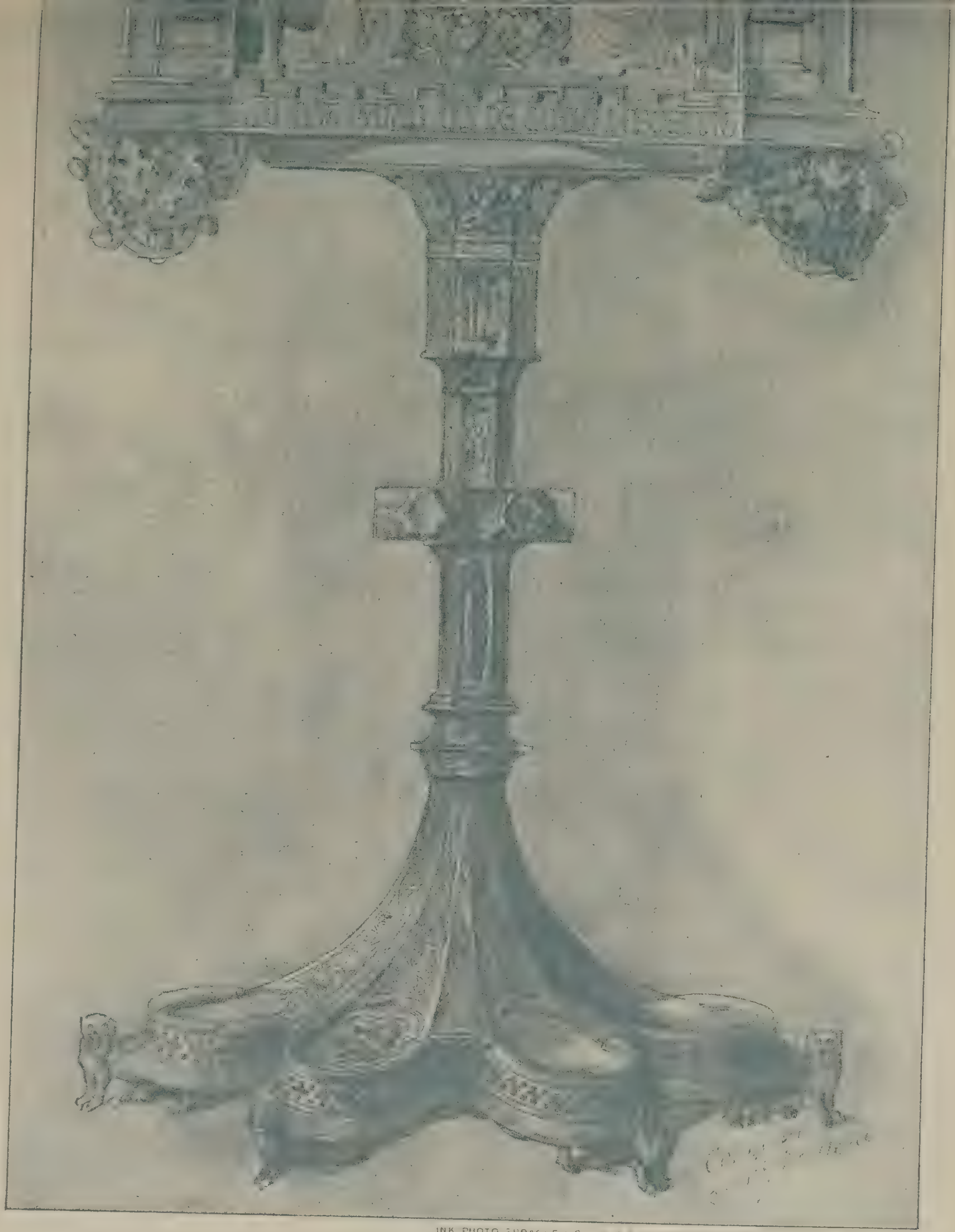

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A Monstrance in Silver Gilt and Ivory, for Arundel Church, Sussex.

Presented to the DUKE OF NORFOLK, K.G., E.M., &c., &c., by the Catholics of England, as a Wedding Present.

The Architect.

THE WEEK.

It was supposed that when the Council of the Society of Arts, after devoting much time to the project, withdrew from further consideration of an amalgamation with the London Institution there was an end to the negotiations. But on Monday there was a meeting of the Institution, when it was proposed:—"That any proprietor preferring to withdraw from the scheme shall receive an amount to be fixed by arbitration in discharge of his rights and interest in such share." It was stated that proprietors who approved of an amalgamation should be allowed some liberty. An amendment was moved to the effect that a qualified architect should be instructed by the managers to prepare, at his own expense and risk, plans for the better utilisation of the present site, and that until a scheme for the reconstruction of the Institution had been submitted to the proprietors, the consideration of the proposal for amalgamating with the Society of Arts should be adjourned. Although the amendment was declared by the chairman to be informal and was not accepted, it should not be overlooked as evidence that men of high standing in the City are willing to employ an architect on important duties without any payment of fees. That state of mind will not convince reasonable people about the competence of the opposition to deal with the project. The meeting separated without coming to a conclusion respecting the question of withdrawing.

On Tuesday the London County Council (General Powers) Bill was approved by a committee of the House of Commons. The Council already possessed power to acquire monuments and to purchase and maintain buildings of historic or architectural interest. It was discovered, however, when Mr. Thornycroft's group *Boadicea* was presented that they were unable to expend money to supply a base. In 1904 the Whitechapel Art Gallery, which is supposed to have cost 16,000*l*., was offered to the Council and could not be accepted because there was no power to acquire and maintain such buildings. The City Corporation, which is easily alarmed at any progressive step of the County Council, wished to be exempted from contributing to the acquisition of such property. The reason offered was that the City possessed already a museum and library and a collection of pictures. The committee were, however, unable to grant the desired exemption. It is surprising that the Corporation should not have more public spirit. Years ago many interesting buildings within the City might have been rescued from destruction if the Corporation were disposed to anticipate the proposals of the County Council.

If the study of Irish archæology receives more attention than formerly the credit must be given in a large measure to German scholars. O'Donovan, who was the greatest of the Irish philologists, never hesitated to admit his inferiority to the Brothers Grimm, who had made the Celtic language interesting to students in most European countries. It is an advantage not only to students, but to Irishmen, to have it demonstrated that in the arts and sciences they were not isolated, and that the products which are known as Celtic bore some relation to what was found not only in Europe but in Asia. That relationship was for a long time dependent on fanciful theories like those of Vallancey and Betham. But when objects can be presented which have characteristics in common, then some certainty is given to deductions. It was, for instance, a loss to Ireland when the gold objects were removed from the British Museum to Dublin, for it is not to be expected that foreign investigators will cross the Irish Channel in order to see them. In the British Museum they could be compared with similar objects. The case was not, however, properly explained. The Irish people, having gained, are now eager for further victories, and they have applied for the ancient Irish bells, which are in the museum, on the grounds that they are of no value to the institution and of no interest to the British public. It does not require many days in the British Museum to become convinced that there are visitors to the collections who are not natives of Great Britain. Foreigners possess a claim to have the archæology of the islands exemplified, and it would be absurd to inform them that they must make another voyage in order to see such objects. Happily for a time there is a true scholar who has the management of Irish affairs, and he is not to be bamboozled by efforts to represent the Irish as eager students of antiquity. Mr. Bryce has said:—"I am informed that the ancient Irish bells in the British Museum are regarded by the trustees as possessing, in relation to the native art of Britain and other countries, a very decided interest for students generally. The British Museum aims at being a Museum of general archæology, and for the purposes of archæological study in the widest sense, the trustees endeavour to make their collections as representative as possible." If Mr. Bryce had been in office when the gold ornaments case was heard, there is no doubt they would still be found in Bloomsbury.

There is no country in Europe in which so much attention is given to postage stamps as in France. Several changes have been made, and the arrangement by which penny or 10 centimes postage is to be recognised throughout France has caused a revision of the stamp at present in use. It represents a woman with a Phrygian cap sowing seed. French critics, including artists, have discovered that it is incorrect. There is a sunrise in the background on the right, but the figure appears to be lighted from the left; and, moreover, in spite of the sun's rays, the whole background is dark, and the stamp might be a reproduction of a bas-relief. The late postal Minister before his retirement from office had a consultation with high officials and with M. Roty, the artist, and M. Mouchon, the engraver, whose names are allowed to appear on the stamp. It has been decided to alter the position of the sun Henceforth it will appear on the left of the sower, and the rays will produce their logical effect, for the whole of the background will be lighted and the figure of the woman will also gain by illumination. As in the more expensive stamps, the words "République Française" will stand below, and the word "Postes" will be introduced in a corner. The altered stamp comes into use on April 16, and is more effective than its predecessor.

If superstition prevailed in the Quartier Latin the failure of the great fountain at the top of the Boulevard St. Michel would be considered as ominous. Of all the fountains in Paris it was probably the most admired, although it was one of the relics of Napoleon III., for it only dates from 1860. No doubt its position is not advantageous, for it suggests that the end wall of an ordinary house was transformed into a fountain, which appears to be merely an unusual wall decoration. But able sculptors produced the figures, the principal being the work of Duret. Several months ago the water ceased to flow, and it is needless to say that countless protests were at once sent to the authorities. Those who felt aggrieved by the withdrawal of a familiar sight and sound were not informed about the cause or the reparation. We may imagine that as the works of the underground railway were to be carried in front of the fountain the municipal engineers waited to see the effect of the excavations. The fountain has been enclosed by a hoarding. But all who pass by can again hear the small cascade flowing into the basin. It may therefore be assumed that when the railway is completed the hydraulic machinery will be effectively in action.

THE HOUSES OF PARLIAMENT.

If the members elected to the new Parliament continue to attend with as much assiduity as they have done since the Session opened, it must be expected that the necessity for enlarging the House of Commons will be again urged. Such an undertaking is possible to a limited extent. When, however, Barry designed the building the circumstances which now appear to be impending were not anticipated. The House of Commons was then supposed to be, above all things, the finest club in Europe. It was not believed that a time would come when members would be paid fixed salaries, and were in return to attend the sittings and committee-rooms during regular hours. In the future it must rarely happen that a difficulty will arise of gathering a sufficient number of members to form a "House." For the majority of them it will not be enough as hitherto to have it stated at the end of a session how often they voted. Paid members must approximate to officials, and, whether they are useful or otherwise, will have to spend some hours daily awaiting an opportunity to speak or vote. That was not the kind of assembly which had to be provided for seventy years ago, and the architect cannot be blamed if the Houses of Parliament recall ancient rather than modern requirements. It may therefore be not uninteresting to recall the circumstances which led to the erection of the great group of buildings.

A contemporary chronicler, in recording the destruction of the old building in 1834, wrote as follows:—"Both Houses of Parliament were burnt to the ground on the night of October 16, and it is said to be the intention of Government to rebuild them on the same spot. Perhaps this may be desirable on account of the offices in the neighbourhood, but we must confess we should have preferred a more open and elevated site. Were it not that we should regret to see the space intended to be left open at Charing Cross covered with buildings, we should have pointed to it as a suitable situation. A large and lofty quadrangular building there might easily be made to contain both Houses of Parliament, with all the offices and other appendages necessarily connected with them." This statement is interesting, for it indicates a belief that the site at Westminster was not adapted to the necessities of a modern Parliament house. The Thames in those days was offensive, and it necessarily formed the limit on one side. Westminster Hall, the Law Courts, Westminster Abbey and School restricted the site on the north, and all the space open for extension was on the west in the direction of Millbank, and did not offer an attractive prospect. But old associations were too powerful, and it was supposed to be necessary to have a close connection between the building where laws were to be enacted and the courts where they were to be interpreted.

On the night of the fire Charles Barry, who was then in his thirty-ninth year, was one of the spectators. According to his son's account:—

> Mr. Barry was returning from Brighton on the coach, when a red glare on the London side of the horizon showed that a great fire had begun. Eager questions elicited the news that the Houses of Parliament had caught fire, and that all attempts to stop the conflagration were unavailing. No sooner had the coach reached the office than he hurried to the spot and remained there all night. All London was out, absorbed in the grandeur and terror of the sight. The destruction was so far complete that preservation or restoration was out of the question; the erection of a new building was inevitable, on a scale and with an opportunity for the exercise of architectural genius hitherto unexampled in England. The thought of this great opportunity, and the conception of designs for the future, mingled in Mr. Barry's mind, as in the minds of many other spectators, with those more obviously suggested by the spectacle itself.

It seemed not unlikely that Sir Robert Smirke would secure the commission. He was in the confidence of the Government, and he had to prepare the temporary buildings for the use of the Lords and Commons. That gave him a hold on the situation which he knew how to turn to his own advantage. Sir Edward Cust, who suspected the intentions of the authorities, issued a pamphlet addressed to Sir Robert Peel on the expediency of a better system of control over buildings erected at public expense and on the rebuilding of the Houses of Parliament. In the course of it he said:—"The last plan adopted by the Government was, I believe, to call in council a certain number of the sages of taste. The public is, I believe, still in ignorance of the method adopted in the selection of the architect. As usual, to use a vulgar phrase, 'a tub was thrown out to the whale,' and as in the case of Buckingham House, the country was informed they were only going to enlarge an old building; so another old building was to be patched up and altered at a trifling cost, and on the top of the scheme the Minister found an architect ready to his hand without it being known correctly at whose door the responsibility of the choice remained." The words evidently mean that Smirke was to be accepted as the architect for the new building. Sir Edward Cust recommended that finance alone should be left to the Woods and Forests, who had the control of the buildings, and that five gentlemen should be appointed to arrange about the style, the conditions of the competition and the selection of the architect. His suggestion was adopted. In June 1835 instructions were issued which prescribed that the style of the buildings was to be either Gothic or Elizabethan. The designs were to be sent in before January 20, 1836.

It is needless to say the style or styles recommended did not secure approval by all the architects of the time. There were few who could be considered as having given much attention to Gothic. Charles Fowler, while expressing satisfaction that the official system of appointing one architect had been abandoned, still considered from so unexpected a proposal that a Gothic design had been already prepared for the building. As to the style, he declared that the intended structure could not aspire to become more than a third-rate character, from its vicinity to two such commanding edifices as the Hall and the Abbey. A. W. Hakewill said the Classic style was so identified with the progress of refinement and civilisation, there could be no doubt it was most suited to the intellectual character peculiar to the subject. Benjamin Ferrey, who had some claim to be accepted as an authority on the other side, declared that if Grecian architecture claims nature as her prototype, it is not asserted with less truth that Gothic architecture is founded upon the same charm and principle, to which is added an increased portion of mathematical skill, combined with an endless variety of beauty in its ornaments, of which the germ may be found in the botanical works of nature only.

Pugin was, however, the architect whose devotion to Gothic was at the time most remarked. In the course of a pamphlet which he wrote in reply to Hakewill he said:—

> A feeling of admiration and respect for the noble works of our forefathers has arisen which I trust and believe will never be suppressed. It has been discovered that, in lieu of borrowing our architecture from foreign climes, we possess buildings whose character is more suited to our country and climate, and that, much as Classic beauty may be admired in the countries where those styles flourish, still to sacrifice the varied and applicable styles which were employed in our country during the Middle Ages for the dry and monotonous temples of Athens, shorn of their principal characteristics of gigantic size and simplicity, to render them at all fit for present purposes, is a folly that is every day growing more glaring; and as errors, when perceived, give hope that they will be amended, I trust fully that Anglo-Greek will shortly cease to exist, except in the buildings erected during the last few years, whose slight constructions give great hopes of their speedy decay—a result most fervently wished for by yours most truly.

There were ninety-seven competitors. The commissioners appointed to make a selection were Mr. Hanbury Tracy, Sir E. Cust, Mr. Thomas Liddell and Mr. George Vivian. On the last day of February, 1836, the award was published, and the first premium went to Charles Barry. The estimated cost, after allowing for old materials, was put down as 693,104*l*., with 129,000*l*. for an embankment, and the works were expected to be completed in six years.

Pugin's name did not appear among the competitors, although some architects had anticipated that he must have succeeded. His biographer says he then committed the great mistake of his professional life. It is believed that he aided Mr. Gillespie Graham in a design which was not among those premiated, although it is said to have been strikingly Mediæval in treatment.

The decision was not accepted with unanimity. The advocates of the Classic style continued to insist on a change. Many of the unsuccessful competitors held an exhibition of their designs, and on the strength of it the designers announced that the public did not endorse the award of the judges. The case was brought before the House of Commons by Joseph Hume, the advocate of economy, who endeavoured to excite alarm about the contemplated expenditure. But Sir Robert Peel was able to convince the House of the care which had been taken to bring about a satisfactory result. Little time was lost before the works were commenced, and then it may be said that Barry's real troubles began, for he had to deal not with one client, but with several independent authorities, none of whom appear to have had precise notions of what should be done, but who posed as supreme in art and construction.

Barry must soon have realised that more accommodation was needed. The House of Commons is, under the new conditions, too confined for the large number of members who will have to be present. But there are other needs, and it would be an advantage if some, if not all, of the ministerial work was transacted close to the Houses. In Barry's day it was not contemplated to bring offices to Great George Street and Charles Street. Realising that the removal of the law courts would be advantageous to the palace he had erected, he proposed not only to erect committee-rooms and commission-rooms on the site, but to carry new buildings along Bridge Street to the Clock Tower. The entrance to Palace Yard would be at the angle, and he proposed to have there a gate tower. In other words, the Parliamentary buildings would be continued from the Victoria Tower to the Clock Tower, and there would be an exterior and interior group, the effect of which would surpass the Houses of Parliament as now seen. The arrangement would also have the advantage of allowing of a view which would be more impressive than one from the Thames or from the opposite embankment. In 1855 there was much discontent with Barry's building, arising mainly from imaginary shortcomings, and the proposals which he then brought forward did not receive the attention they deserved.

THE REPORT OF THE ROYAL COMMISSION ON TRADE DISPUTES.

By W. S. Holdsworth, D.C.L.

II.

In this paper we shall consider the recommendations of the Commissioners upon the subject of picketing, and upon the law of conspiracy as it affects trade unions.

The present law upon the subject of picketing is contained in Section 7 of the Conspiracy and Protection of Property Act, 1875. Shortly stated, its effect is as follows:—Any person who, with a view to compel any other person to do or to abstain from doing anything which that person has a legal right to do or abstain from doing, does certain acts, is liable on summary conviction to fine or imprisonment. The acts enumerated are violence or intimidation directed to the person himself, his wife or children; persistently following him about from place to place; hiding tools or hindering him in the use of them; watching or besetting the house where he resides or carries on his work; and following him about the streets in a disorderly way. There is a proviso that attending at the house where a person resides or works merely to obtain or to communicate information is not a watching or besetting within the meaning of the Act. This section renders watching and besetting for any purpose other than that of obtaining and communicating information an offence. It therefore renders watching and besetting for the purpose of peacefully persuading or, in other words, picketing, an offence. It has sometimes been said that the Courts have punished workmen for peacefully persuading. The Commissioners point out that this is a mistake. "No workman has ever been punished under this Act for merely peacefully persuading. What he has been punished for is watching or besetting a house, &c., with the view of peacefully persuading—a different matter." The Trades Disputes Bill of 1904 (*The Architect*, June 17 and 24, 1904) attempted to legalise peaceful picketing. We said in commenting on that Bill that peaceful picketing was really a contradiction in terms. So say the Commissioners. "The evidence on this matter laid before us is on this point really overwhelming, and is evidence which the trade unions have made no attempt to contradict. What it comes to is this, that *watching and besetting* for the purpose of peaceably persuading is really a contradiction in terms. The truth is that picketing, however conducted, when it consists of watching and besetting the house, &c. . . . is always and of necessity in the nature of an annoyance to the person picketed. As such, it must savour of compulsion, and it cannot be doubted that because it is found to compel that, trade unions systematically resort to it." These views are sound and clear, and we might expect that the Commissioners would make some definite proposal that the arm of the law should be strengthened against such practices, especially having regard to the fact that the proportion of unionist workmen to non-unionists is about one in ten. Instead of that, the Commissioners propose to strike out the watching and besetting clause of the Act of 1875, and to substitute for it a clause making it an offence to "act in such a manner as to cause a reasonable apprehension in the mind of any person that violence will be used to him or his wife or family, or damage be done to his property." We cannot think that this recommendation is consistent with what the Commissioners themselves state as to the character of the evidence offered upon this subject. What is wanted is the sharp and short process of summary conviction directed to the actual evil—watching and besetting. This process is the only process competent to strike at the evil, and it is clear that it can be much more easily struck at by retaining the existing clause, than by substituting for it a clause of a more vague and general character, under which it will clearly be more difficult to convict. The views of Sir Godfrey Lushington as to the evils of picketing are the views of the majority of the Commissioners, but his conclusions are more logical. "Picketing," he says, "is a form of industrial conscription, and in organising it, trade unions act as if they represented not only their own members, but the entire body of workers, and had authority to enforce regulations to which all were bound to conform. I am of opinion that picketing is an abuse for which a remedy is urgently required, and that the personal freedom of workmen needs not less protection than hitherto, but more. I therefore recommend that the existing prohibition of watching and besetting be retained, and that the proviso permitting it for the sole purpose of giving and receiving information be repealed."

We pass now to the difficult subject of conspiracy. Upon this subject the Commissioners recommend that it should be enacted that "an agreement or combina tion of two or more persons to do or procure to be done any act in contemplation or furtherance of a trade dispute shall not be the ground of a civil action unless the agreement or combination is indictable as a conspiracy, notwithstanding the terms of the Conspiracy and Protection of Property Act, 1895." The effect of this recommendation is to enact for the offence of conspiracy considered as a civil wrong what the Act of 1895 enacted for conspiracy considered as a crime. In effect it overrules the law as laid down in the case of Quinn *v.* Leathem. The substantial reason for this recommendation is the extreme obscurity of the law as it at present stands. The law as to conspiracy to injure is so indefinite that it is no guide to workmen as to what acts may and what acts may not be done during a strike. Indeed, most lawyers find it hard to advise as to what acts will and what acts will not constitute an actionable conspiracy. Does any combination to do acts which are not themselves torts, with an intent to harm others, amount to such a conspiracy? What will amount to an intent to harm others? Is there any, and if so what, justification for such acts? Will self-interest be such a justification? None of these points can be answered with certainty. Hence, if a lawyer is asked whether it is actionable to organise a strike against non-unionists, or to persuade a workman to strike, or to persuade a strike in sympathy with a strike already in progress, he can give no clear answer. "The upshot of the whole is that the law of conspiracy to injure as recognised in Quinn *v.* Leathem places it in the power of a judge and jury, if in their discretion they should so think fit, to treat any joint conduct whatever as actionable, and, except so far as barred by the Act of 1875, criminal." We cannot but agree that a law so vague is pre-eminently unfitted to be a guide to the conduct of trade disputes. We should note, however, that this change in the law would leave trade unionists subject to the ordinary law of tort; and it should be remembered that persuasion to break a contract is a tort. It would also leave them amenable to the law if they infringed Section 7 of the Conspiracy and Protection of Property Act. If it was desired to prohibit any other acts, such acts could be added to those already prohibited by Section 7. "The prohibition would thus be enacted after discussion on the merits, and being recorded in a statute, would be intelligible to workmen and their advisers." Obscurity in a law is always bad; but when that obscure law is supposed to be a guide to ignorant men at a time when their passions are excited, and when non-compliance with it may entail heavy consequences, it is better that it should not exist. Obedience to the law is the lesson which trade unionists most need to learn. Their natural instinct to set themselves above it will only be increased if the law is so obscure that it cannot be learned. But it should be noted that this only makes it the more necessary that Section 7 of the Act of 1875 should be made not less but more definite. We agree that the doctrine of conspiracy, as applied to trade disputes, should be swept away. We think that it follows that nothing should be done to impair the efficiency of Section 7, which will then be the chief protection against illegal acts. This, in our opinion, adds another and a most formidable reason against the proposal of the Commissioners to modify that section, which we have discussed above. For it should be remembered that the process of summary jurisdiction provided by that section is the only process which is really fitted to deal promptly with offences of this kind. The ordinary process of indictment is too slow, and an action is useless when the defendant has no means wherewith to compensate the injured party.

From this summary of the more important features of this report it will be seen that the report itself and the cases and statutes there cited and explained merit careful study of all those interested in this important question. They present us with a history of the gradual emancipation of the workman and the trade union. The great problem which the State must face is the problem of co-ordinating this new power with the existing organisation of the State, in such a way that its reasonable activities on behalf of the working man shall not deprive other persons and bodies of the liberty to which they are equally entitled. When a class has been kept too long in a condition of undue subservience, the swing of the pendulum is apt to result in giving them that undue liberty which the inexperience of the recently emancipated usually demands. We cannot blind ourselves to the fact that many trade unionists aim at securing an undue liberty—a liberty to infringe the equal rights of others. They remind us of those Protestants who immediately began to persecute all who could not agree with them as soon as they had gained liberty of conscience for themselves. Like them they are inclined to rely upon strength rather than upon reason. Especially we must not forget, though perhaps it is an unpopular doctrine nowadays, that the liberty of the employer is in some ways more important to the community than the liberty of the working man. After all, employers are the generals of the forces of industry, and to hamper the activity of the general by a series of restrictions which tend to promote merely the comfort of the private soldier may well result in the loss of the whole army. Australia should be somewhat of an object lesson to us. Employers are already taxed heavily enough for objects which benefit the working man. If the aims of the extreme party among the trade unionists be realised, they will also be deprived of that control over their business which is essential to its successful organisation. The trade unions may find out too late that by grasping at too much they have lost all. The State may find out too late that by conceding too much to the importunity of a class it has destroyed the trade, and with the trade, the greatness of the country.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W., Mr. Leonard Stokes, vice-president, in the chair.

Two papers were contributed by Messrs. W. Aumonier and A. W. Martyn on

Wood-Carving.

Mr. Aumonier in his paper dealt principally with the treatment proper to wood-carving, and referred to the various ways of applying carving in architectural decorations. If the wood-carver, he said, can succeed in making these points of real interest in the scheme, and by a right understanding of the power of light and shade help the architect to bring his whole design into harmony, and if he impart into the work some subtle touches that will help to bring mystery and life into it, in however small a degree, he has done something to relieve the appalling monotony of machine-worked moulding and correctly planed boards—he has done something to justify the hope that he may be regarded as a brother artist working in sympathy with the architect towards a common end. Going into details of the carver's art in relation to architecture and treating of panel-work, the lecturer said that very fine effects can be obtained by the actual treatment of the work as light and shade, by putting some parts very low on to the ground and keeping others high. Even a bad design may be made to look tolerable by the way the work is, in the language of the craft, "thrown about," and a really fine design may have no interest if carved with no sense of relief or proper variety of surface. A design should never be too elaborate or intricate in character. The lecturer expressed his strong personal sympathy in favour of solid panels carved with a considerable amount of relief, some parts being high and others very low and dying delicately into the ground and combining with it. He felt, however, that in these days of a distinct, and to some architects disquieting, revival of the Grinling Gibbons sort of work, one could not ignore altogether the sumptuous effects arrived at by swags, &c., boldly applied on to the surface of plain panels. By this process rich and strongly decorative effects may be obtained which, perhaps, could not be conveniently accomplished by any other means. Styles or rails forming part of the frames of carved panels should be treated very delicately and carved into the solid wood itself, so as not to lose the feeling of strength properly belonging to framing of any sort. Columns, if carved, should be treated in the same flat, solid manner as recommended for styles. Perforated work should be kept very flat on the surface. As regards mouldings, architectural decoration might be often improved by giving more thought to the suitable treatment of carved mouldings—for instance, keeping some of them very delicate in effect and some much stronger as a whole; while some may be delicate in parts and much stronger in others, always dividing the strength and delicacy to run in line with the edge of the moulding. The lecturer showed by means of diagrams various ways of treating enriched mouldings. Caps to columns or pilasters should never be overcrowded, but should show the bell plainly, thus revealing the strength of the column going right up to the abacus. They should be very lightly carved, and the volutes may be freely cut through in all directions, plainly disclosing the bell underneath them. As to carving generally, the lecturer deprecated all mechanical means of getting effect. He pleaded for its own treatment, that of real carved or cut wood, cut with sharp tools and alive with living, nervous cuts all over both subject and ground, making one harmonious whole. No part of the ground should ever be absolutely smooth like a planed board—no part of the surface of the carving itself ever robbed of all expression by the brutal use of glass paper or fish skin—all parts of the work should teem with the joy of life and effort which the carver felt in doing it. It should look as if wrought by a man.

Mr. A. W. Martyn briefly sketched the history of wood-carving from early times down to the present day, deducing the fact that the best work in all periods has been inspired by religious enthusiasm. How are we, he asked, to inspire enthusiasm, and will the expression of such enthusiasm elevate the public taste so that we shall not have such a character for the next fifty years as we have had in the past? To inspire enthusiasm one must have contagious enthusiasm oneself; had we a wood-carver—or, say, an architect—with the enthusiasm for his work that a man like General Booth has, we should find a marked improvement in all branches of architectural art. The lecturer emphasised the point that it is the architect who makes the carver. The architect must know what he wants, and must be able to inspire his carver with his requirements; he must work with him as a fellow artist, leading him on to produce that which is in his (the architect's) mind. The lecturer cited Grinling Gibbons as an example of an artist in wood who when left to himself simply became a clever expert with his tools: his work lacked architectural harmony, it was wood-carving pure and simple, without direction—witness the altar-piece at St. James's Church, Piccadilly. On the other hand, much of the same artist's work in St. Paul's Cathedral, though not nearly so well carved or so dexterous, has control; it has architectural harmony, and is part of the architecture, and, what is more, part of the architect. As regards the architect's knowledge of carving, intimacy with good work is essential; and a carver to give the best results must have a fair knowledge of architecture—*i.e.* the carver should know as much of architecture as the architect should of carving. Contagious enthusiasm cannot be within the power of all, but intimacy with one's subject and sympathy between the artists can be secured by every architect, and will to some extent remedy the deficiency in the lack of enthusiasm. Necessarily enthusiasm must be properly directed, must be placed at the back of knowledge to encourage and direct. But how is this knowledge to be secured in the fullest degree? Though real, useful, living knowledge is being given to students at some of the schools of art, we have no central leading authority to found or carry on any given school of carving. The school of Gibbons was created by his personal force in his work, which was lifted right away from its immediate surroundings to a height carving had not reached for 200 years. Since his time carving has steadily depreciated. We must now look for some artist to lead us along the line of progress; if it cannot be done alone, it may be by united efforts. Unless we can hand down to the younger generation some of the knowledge we have gained through the years of experience, so that the threads of our knowledge may be carried on indefinitely, we cannot make such progress as history has painted for us in the past. The old schools of painting were more or less continuous, the pupil often rising above the standard of his master, and so by continued growth the fullest development took place. The lecturer expressed a wish that it were possible to found such a school for carving. A London master, he said, had given twenty years' hard service, and had probably done more good in this direction than almost all the others combined. This work ought to be carried forward, and should receive the assistance and sympathy of architects. The lecturer suggested that as religious fervour was lacking, another spur should be found to help us along. Perhaps the best was ambition; at present ambition in a carver was almost dead. A gold medal might be founded on the lines of the royal gold medal for architecture, and presented annually, or even triennially, as an award of merit to the individual who had done something to raise the standard of his art, be it in mural decoration, stained glass, plasterwork, wood-carving, or any other branch of architectural work; the recognition should be public, so that the award should carry with it the good opinion of the art-loving public. But the opportunity must be created for continued study; there should be a central school directed by men of knowledge. By looking at the past one was able to judge of the future, so that in all probability the architectural profession must be looked to to raise the standard of work. The architect is the master, the carver the servant; but a direct and living sympathy must at all times exist between them if the best results are to be obtained. The lecturer referred to a little difficulty carvers continually meet with in connection with architects' sketches of carving. An architect will mark on his drawing the word "carving," and his assistant, often a junior, will roughly sketch what he thinks is required; and the carver is invariably affected by whatever is shown, no matter how rough. This is an important point; whatever is shown on the drawing should be strictly indicative of what the architect desires. A carver often produces a clever piece of carving by the inspiration of a clever sketch supplied by the architect.

Mr. Geo. Hubbard, proposing a vote of thanks to the authors of the two papers, said the subject of the lecture was essentially one of the high arts, and it became increasingly difficult to criticise those arts. As the leading architects had just been telling them, they could not criticise art, and he began to realise what was meant by that when he looked at some of the photographs around the room. He referred more particularly to one which showed a good deal of carving executed by Grinling Gibbons, which was originally in the chapel of Winchester College. Many years ago a leading architect had instructions to carry out certain works in that chapel, and when he saw the carving he did not consider it quite appropriate; at all events, said the speaker, the architect seemed to consider his own Gothic was much more suitable. The carving, therefore, was turned out whether it was appropriate or not for the chapel, and placed in the room of a house near Winchester. As a humble architect, the speaker said he would like to say that well as the carving looked in the room photographed, it might have been still handsomer in the position which Grinling Gibbons intended it to occupy. One of the characteristics of Grinling Gibbons's work was that he invariably neither enlarged nor diminished the size of the foliage, fruit or flowers he was depicting in his work, and he so arranged his carving that the fruit or flowers could be picked from where it hung by a person standing on the floor. The lecturers had explained how the best effects could be obtained, but there was a great deal more in wood-carving than just the effect that was attempted to be gained from the artistic point of view. There was a certain sentiment, and it was the duty of the carver to represent that sentiment. Architecture and carving were but representations of sentiment, quite apart from artistic effect. As the lecturers had pointed out, it was for the architect to instruct the carver in the work he was to carry through; it was therefore for the architect to explain the sentiment he wished to be found in the carving, and he should be able to convey that sentiment to the carver. It was thanks to lecturers such as they had just heard coming down to their meetings that architects could appreciate how they might assist in raising the standard of carved work.

Miss Eleanor Rowe, who seconded the vote of thanks, said she agreed with the points Mr. Aumonier had made in his paper about the treatment of rounds and mouldings and pierced carvings. With regard to Grinling Gibbons's work, the speaker said she would be sorry if there was a revival of it, although carvers could learn much from the original examples. There was a want of harmony in the work when a whole room was seen decorated in that way. In conclusion, the speaker commended the suggestion that the

Institute should offer a gold medal as an award of merit for art and craftwork, and the possibility of gaining such a prize would be a great encouragement to all carvers.

Mr. W. H. Atkin Berry said there was scarcely a word in Mr. Martyn's paper that would not appeal to the warmest sympathies of all who heard it. The paper had spoken of that undefinable thing, spirit in work, and had protested against the commercial spirit in art, that commercial spirit which was the bane of all that they as architects tried to achieve. Mr. Martyn said that architects made the carver. It might be so, but the speaker thought the architect was often in the hands of the carver, for he could make or mar the architecture by the carving. The paper had also alluded to the enthusiasm that was necessary. They all knew that enthusiasm was a potent force if it had scope and encouragement. Very often, however, they as architects deplored the lack of that encouragement. They were not masters of the situation, for they were in the hands of those who had to pay for the work executed, and often when the architect desired to employ the best talent, he was prevented from doing so by the want of enthusiasm on the part of his clients. Therefore, the architect could not be held responsible for any lack of encouragement to art as represented by carved work.

Mr. H. Inigo Triggs said he had always felt that Inigo Jones did an enormous amount of work towards the development of English wood-carving. In All Souls College at Oxford he had seen the original sketches the architect had made for carving there. Certainly Inigo Jones did more than write the word "carving" on his drawings. The speaker said he had understood that the carver had then a free hand in his work, but on examining the drawings it was astonishing to see the amount of detail that Inigo Jones had put into them. Sometimes it was said Wren started the English school of carving, but in the light of facts the speaker believed Inigo Jones exercised an earlier influence on the art.

Mr. J. D. Crace said he agreed with Mr. Martyn that Grinling Gibbons became valuable to architects at the time he came under the direction of Wren. Gibbons's work subjected to such restraint and influence was valuable to the building.

The Chairman put the vote of thanks to the meeting, and the two lecturers having replied, the evening terminated.

RHIND LECTURES.

The Rhind Lectures in Archæology for 1906 are to be delivered by Dr. F. Haverfield, Hon. F.S.A.Scot., of Christ Church, Oxford, the subject being "Roman Britain."

Dr. Haverfield devoted his opening lecture, says the *Scotsman*, to an explanation of the general character of a Roman province, such as Britain. He observed that it might sound a truism to say that all historical and archæological facts must be explained in harmony with their environments. Yet the truism was often ignored. We recognised, indeed, that a new find, be it large or small, or a fort or a fibula, a dwelling-house or a coin, could not be properly criticised without a knowledge of the circumstances in which it was discovered and the other objects discovered with it. We did not so readily recognise another sort of environment. This was the whole historical framework within which our new find lay. This framework provided us with a number of antecedent necessities and probabilities which we could neglect only at our peril. Suppose, for instance, we were told that a Roman fort had been found on a hill-top where no ordinary Roman fort could naturally have stood, or that an Italian fibula of the sixth century B.C. had occurred among remains of the Imperial period, or that a Roman villa had been unearthed in the north of England or the south of Scotland. In such and many other cases we should need to reflect that antecedent knowledge opposed the tale. It might be that our antecedent knowledge was wrong and required adjustment. It might be also that an abnormal accident had confronted us. But it might also be that our fort was not a real fort, or our fibula was not a true relic of antiquity, or our villa no country house, but an officers' casino. In any case, we must compare our new find with our general knowledge and correct the one by the other. This was the reason why he had thought it well to commence a course of lectures on Roman Britain by the preliminary consideration of what a Roman province generally was—what elements we might expect to find in it, what kind of civilisation, what manner of military occupation. We were apt, in dealing with the subject of Britain, to be influenced by other considerations—by our school recollections of Cæsar and Tacitus, or by our notions of our own Indian empire.

What, then, was a Roman province? We could sketch its chief features in a few words. It was an area of conquered territory outside of Italy ruled by a governor supreme both as civil judge and military commander. The Government, however, was in reality the least important element in the province. It was small in number—the governor himself and a staff, a few financial officials and in some cases, but not in all, a body of troops. These represented the Imperial authority. But they were not necessarily Romans in the sense of being Italian born or resident in Italy. The number of Italian officials in any province must have varied, but it could never have been great. It might often have amounted to two or three dozen. The rest of the officials and troops might have been, and indeed probably were, provincials, and the bulk of them might never have seen Italy. Moreover, this official body did not really govern. It only supervised. The real rule lay with the local authorities. These might vary. But we could discern three units, all of which occurred commonly. First, the town organised on the Italian municipal system, and established with a special charter and special privileges, and a territory around it. Secondly, the Imperial domain, managed by Imperial finance officers. And thirdly, the great area of native local organisations, differing in every different district—in the one cantons, in the other native towns, both ruled by the native nobles or magistrates. In the Roman Empire Home Rule was applied freely and fully. These were the elements of the province. But provinces differed. Those of the Eastern Empire were Greek or Oriental lands, full of ancient civilisations. There the Empire was little more than a military occupation. But in the West the populations were akin to the Latin, and were also uncivilised. They were capable of receiving not only Roman rule, but also Roman culture, and they actually received it. Here we touched the true work of the Empire—the Romanisation of the western provinces. It was within the limits of this Romanisation that we must attempt to fix our views of Roman Britain.

Let them examine the conditions more closely. The races of the West were white, by origin probably akin to the Italian, and capable of assimilation. We had not to deal, as we might in Roman Egypt, or to-day in British India, with subject populations sundered for ever from their rulers by a physiological abyss. Nor had we to deal as we might in Finland or Bosnia or Poland to-day with a civilised race conscious of its own identity, sullenly resenting the dominion of another kindred race. The result was that the western provinces became Roman in a very real sense. They spoke and thought and lived as Romans. The outward fabric of their lives and the linguistic fabric of their thoughts were alike Italian. We could not in these provinces speak of a "departure of the Romans" as we might in India to-day. The departure of the Romans would have meant the departure of the provincials themselves: a civilisation which was a mixture of Hellenic traditions with Roman ideas spread over all the western provinces, and covered them with a uniform culture. In this culture there was no originality—only conventional imitation. It was, at its worst, mere automatic copying. But two elements contributed differentiation between one province and another. Nationality was perhaps indestructible. Certainly it was capable of surviving in strange and secret forms when political independence had long ceased. In the Empire it lasted not in opposition to the Roman civilisation, but in union with it. It brought into the provincial culture native gods and native elements. These were not conceived as national and anti-Roman, but coloured the Romanisation; and often one felt that after all the old nationality was not dead, but was capable of a sort of resurrection if only events favoured it strongly enough.

The lecture was illustrated with lantern views of Roman African buildings in Timgad, Thysdrus, &c.; Roman Gallic buildings in Nimes, St. Rémy, Luynes, Reims, &c.; Roman Gallic sculpture in Nimeguen and Lens; and monuments representing native religious worships in Roman Africa and Gaul.

Dr. Haverfield in his second lecture treated of the history of the conquest of Britain. He said if it was one glory of the Roman Empire that it used its peace well in Romanising its subjects, it was scarcely a less glory that it knew how to obtain that peace by guarding its frontiers and by scientific fortification. The early Empire gave little sign of such an achievement. The first Emperor Augustus contented himself with an inadequate army—mainly for financial reasons—and was in consequence driven to various political compromises. But he laid the foundations of the Imperial military system. This system rested on certain fixed principles. First, tactically the army was a heavy infantry force. It contained cavalry regiments; but its foot soldiers were more numerous and more important, and, except in chance frontier fights, decided the issue of battle far more often than the mounted men or archers. Secondly, it was a long-service army. Men were recruited for twenty or twenty-five years. At the end they received bounties or grants of land or homes in provincial municipalities, with the Roman political franchise, supposing they did not already possess it. Thirdly, it was a garrison army. Fourthly, it was a fixed or permanent army. Its units were kept for years, and indeed for centuries, together in the same quarters. Regiment did not relieve regiment according to some regular rotation.

Fifthly, it was posted almost entirely on the frontiers or in disturbed districts. In Gaul, for instance, there were practically no troops. One regiment, rather gendarmerie than regular troops, kept order in the great commercial capital at Lyons. All the remaining troops were concentrated in small or large permanent forts along the German frontier of the Rhine valley. In fact, the Romans adopted the policy which we had recently introduced in India. Till two or three years ago our garrisons were scattered over the land from the Hindoo Koosh to Cape Comorin. Now they were being gathered up into the point of danger, the frontier which faced unquiet hillmen and the chances of Russian invaders. In addition to these general characteristics the regular army was divided into two sharply distinguished grades. If we excluded the favoured prætorians and various local militias as exceptional in one direction or the other, we were left with two kinds of troops, known as legions and auxiliaries. We habitually used the term "legions" as if it were synonymous with the whole army. That was not the case. In many districts of military occupation, as, for example, in Northern Britain, legionaries only appeared at crises when campaigns had to be carried through, serious invasions repelled, or extensive fortifications erected. The rest of the work was done there by the auxiliaries who were recruited from the subjects, not the citizens of Rome, from provincial hill tribes and natural warriors.

In an army of this description, that was intended for permanent garrison work, a special interest attached to the fortifications, the permanent homes of the troops. They had seen that the troops were principally of two kinds. They should find that, with the exceptions due to every rule, the forts were equally of two kinds. One class was the legionary fortress of some 50 acres, accommodating an entire legion with its servants, &c. The other was the auxiliary fort, varying in size from 3 to 8 acres, according, they might suppose, to the regiment for which it was first constructed. For obviously a totally different space would be needed for a foot regiment of 500 and a horse regiment of 1,000. In general one fort went to one regiment, but there were also smaller block-houses, and sometimes larger forts of 10 or 15 acres. These two classes of forts were in general so posted that the legionary fortresses formed strategic centres on or near the frontiers, while the auxiliary forts actually lined the boundary, defended important points along roads, and coerced difficult hill tribes. Few specimens of the legionary fortresses had yet been excavated. Of the three instances in Britain only the outlines were known, but of the auxiliary forts numerous specimens were existing.

In the third lecture, it was said that Julius Cæsar had profoundly affected British education by supplying a text-book for beginners. He did far less to influence early British history. His famous invasions were not conquests. They were punitive raids intended to teach the Britons that Rome was formidable. Still, two results followed his work. The suzerainty which he established over the south-east was, like most suzerainties, a mere name. But it contained a germ of the idea of conquest, and the actual conquest of northern Gaul which he did effect brought Britain into closer relations with the Empire, and helped to civilise and even to Romanise it. After Cæsar followed nearly 100 years' inaction. The conquest was definitely undertaken only in 43 by Claudius. The reasons for it were disputed. Two that were often given seemed inadequate. The mineral wealth of the land, mostly lead and iron, was too little to promote land-grabbing. The Druids were no longer a danger, if they had ever been, to the peace of the Gaul. More probably we might assign it to the coincidence of two facts. First, before 43, the friend of Rome and leading chief, Cunobelin (Cymbeline in Shakespeare), had died, and his sons were anti-Roman. At the same moment there developed in Rome itself a forward policy. In several regions we found annexations, conversions of suzerainties into definite provinces, and the like, which showed that about 41-6 the ministers of Claudius were both able and aggressive.

The earlier history of the conquest could not be traced in detail. But we could see that by 47 the Romans had overrun all the south and south-east and Midlands—that was, all the lowland region, which offered no natural obstacle to conquest. It appeared, further, that the conquest was made by three forces acting independently though in concert. The troops landed in the three ports of early Kent —Dover, Lymne and Richborough—moved on London and thence on Colchester, capital of the house of Cunobelin. Thence they advanced in three divisions. The second legion, under Vespasian, went along the region south of the Thames so far as Exeter. The ninth legion moved up the east coast to Lincoln and the Humber. The twenty-fourth and twentieth formed the centre, and went north-west towards Shrewsbury and Chester. Then, probably, were laid out the great Roman roads of the English Midlands, which run west, north-west and north from London and Colchester. So far the Roman course had been easy; now difficulties hemmed it in. In front were the hills of Wales and of northern England, tangled, precipitous, impenetrable, and inhabited by fierce warriors. Behind were the conquered Britons of the lowlands, some of them doubtless friendly to their conquerors, but many of them reflecting, as conquered peoples did, on the evils of conquest. These evils were not overcome for thirty years. It was not till 80 that the Britons began to accept Roman civilisation gladly, and that the hills of Wales and north England were conquered.

Then the advance into Scotland began. This advance, under Agricola (about 80-5 A.D.), was, he thought, temporary in its character and devoid of serious results. They had various small clues to indicate that it principally proceeded up the west coast from Chester to Carlisle and Birrenswark, and they knew that it left its traces on the line between Forth and Clyde. Domitian stopped the advance. His Government, like the central Government of other Empires at other times, interfered with what they would call colonial freedom of advance and cried halt. It was an unusual word in Roman government, and it was interesting to notice that it was precisely a weak emperor who cried it. Of the forty years between 85 and 125 they knew next to nothing. But we could see that Agricola had not done his work thoroughly. Somewhere about 120 or 115 came a rising of the conquered hill tribes. They had not been immortalised in poetry like their predecessors in the Lowlands, Boadicea and her Icenians. But they annihilated a legion, drew Hadrian himself to Britain and caused the erection of the Hadrian wall. That was not the end of the tale. Early in the reign of Pius Antoninus the wall of Antonine was built (142). Late in the reign of Antoninus (158) there was a revolt of the Brigantes, which spread from Peak to Cheviot and left its usual mark alike at Birrens and near Buxton. But practically the erection of the wall of Hadrian marked the establishment of a definite frontier. The lecturer then showed a number of slides illustrating portions of the wall, its forts, vallum, turrets, &c. He pointed out that at first it had been built by Hadrian in turf, and reconstructed by Severus in stone. Further slides were shown illustrating points at which two periods of building could be detected.

The Report of the general examining board of the Scottish Ordained Surveyors states that two preliminary examinations took place last year. Twelve candidates were presented, and of these six passed in all subjects, four failed in one subject and two failed in two subjects. In addition to the candidates who passed the examination four apprentices were allowed exemption in one or more subjects on production of the leaving certificate or other equivalent certificate. Two diets of the final examination were held. At the April examination one candidate came forward and failed in both divisions. At the October diet one candidate failed in the first division, and another passed in the second division. Attention is drawn to the insufficient preparation shown by the candidates in the subjects of land surveying and levelling.

NOTES AND COMMENTS.

The French, as everyone knows, are sticklers for classification. The Government have had lately to consider an important question of that kind. It relates to the Grand and Petit Trianon, two palaces which are familiar to all visitors to Versailles. The names are derived from Triarnum, which was the name of the parish. Louis XIV. had built there, from the designs of Mansart, a house of refuge for himself to which he could retire when bored by State ceremonies. The question which lately had to be decided was whether the Trianons were to be considered as palaces or as museums. The majority of visitors would be likely to say that the difference was of no greater importance than that between Tweedledum and Tweedledee. It only requires the stroke of a pen for a royal palace or a noble's château to become a museum. In fact, it may be said that France has ceased to have palaces. That was the view taken of the matter by those who were called upon to investigate, for they have decided that henceforth the Trianons which hitherto formed a palace are to be recognised as museums and nothing more. The royal founder of the two, we may assume, will not be much troubled by the change, and it will make not the least difference to the humblest visitor. One department gains the responsibility which another has lost.

The maxims of "Poor Richard" about the advantages of thrift, which are the best known of the writings of Benjamin Franklin, have given an erroneous notion of the character of a great statesman. The United States owe their independence mainly to Washington and to Franklin. One was a country gentleman who employed his leisure as a land surveyor. The other, after a short period in his father's chandlery, became apprentice to his brother as a printer. As a compositor he worked for two years in London. On his return to America he purchased a small newspaper. When he was elected to Congress he proposed a system of colonial defence which was approved by his countrymen, but was rejected by the English representative officials. He was then appointed as agent to London, and his mission was on the whole successful. He was opposed to the French holding Canada and advocated war, but when it was proposed to ask his fellow colonists to pay part of the 73,000,000*l.* expended on the war with France he was one of the first to object. He obtained the repeal of the obnoxious Stamp Act, by which the money was to be raised. At a subsequent period he failed in his opposition to the proposals to levy duties on tea and paper. When the war which followed began he was one of the five who drew up the Declaration of Independence. Afterwards he went as agent to Paris to solicit the support of Louis XVI., and took up his quarters in Passy, in a house which is still standing. The French did not remember that one time he was opposed to them. They were attracted by his discoveries in electricity, and his quakerism in dress and manner fascinated people who were becoming wearied with the courtly splendour which they believed was impoverishing them. More portraits of Franklin were to be seen in Paris than of the king. In 1778 he was able to negotiate the treaty by which the States were recognised as an independent nation, while until the close of the war with England he persuaded France to advance large sums to its protégés. Franklin's reputation remains unstained; the French Government and the Municipality of Paris were therefore right in accepting Mr. Harjes's offer of a replica of the statue of Franklin by John Boylf, which stands in Philadelphia. The memorial is to be inaugurated on the 20th inst. The site is near the Trocadéro Museum, and will be in a line with the street which bears the name of the man who was the first ambassador from the United States to France. On the pedestal, which was designed by Mr. Charles Knight, are inscribed Mirabeau's words:—

"Le génie qui affranchit l'Amérique et versa sur l'Europe des torrents de lumière. Le sage que deux mondes réclament."

People often point to the resemblance between the Madeleine and the Palais-Bourbon, or the Chamber of Deputies, as evidence of the tact which is exercised in laying out long thoroughfares in Paris. The spectator can see that the view is terminated at both ends by a Classic building, each having a pediment and several columns to support it. For a long time the Palais-Bourbon has been supposed to be too small, and from time to time we hear that it is about to be reconstructed. It appears that one of the latest proposals is to remove the Classic façade, while another idea is to bring it nearer to the quay. If once taken down we may assume that it will never be set up, for it will be replaced by something in a later style. In that case, as the French are strong in logic, there is little doubt that the front of the Madeleine would be transformed in order to agree with the secular front. Of course, Frenchmen must have their revolutions, and it may be wiser to operate on buildings than on citizens.

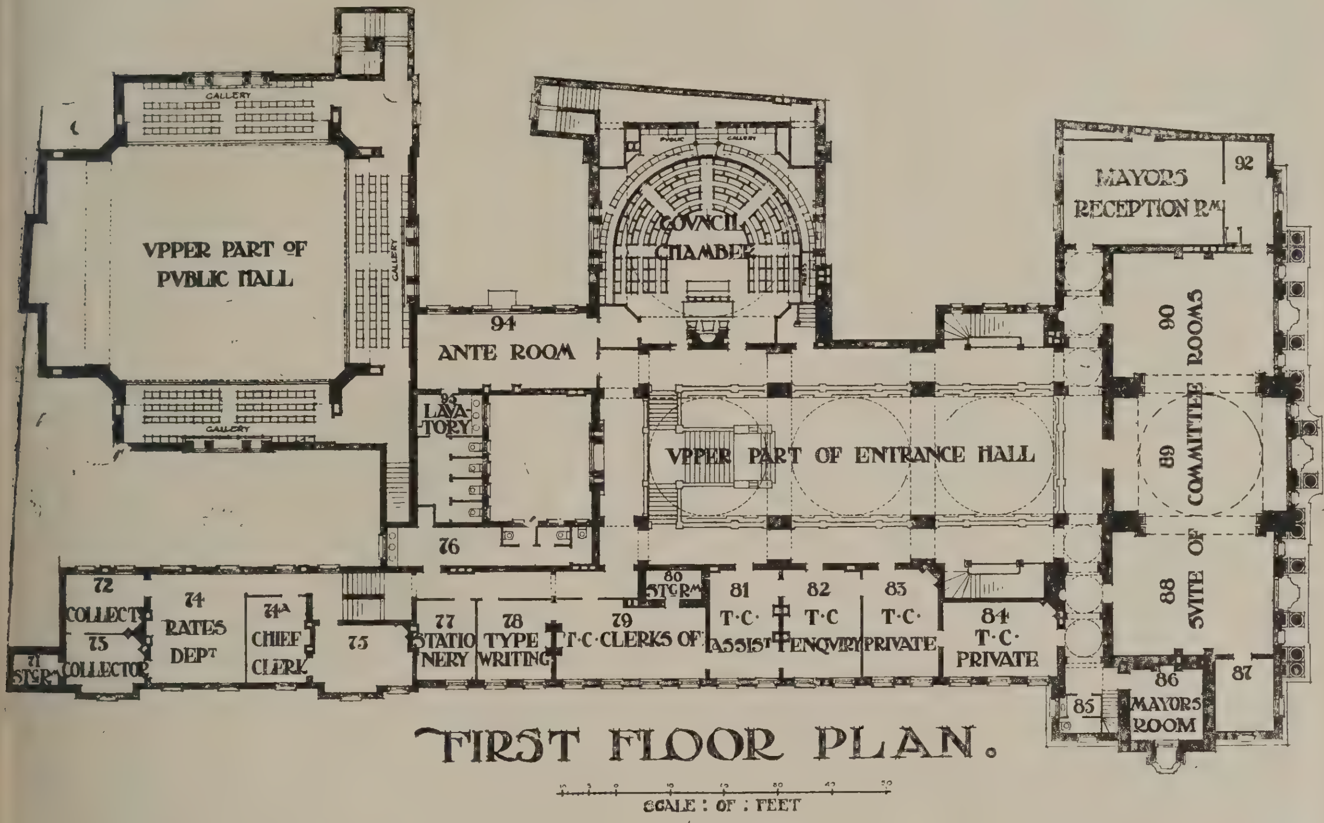
Domenico Veneziano was, if we believe Vasari, a victim to the progress of painting. He worked with Andrea del Castagno in Florence, and discovered the secret of oil-painting, which in the early part of the fifteenth century was eagerly sought. Castagno was said to have murdered him. Recent investigation has demonstrated that there is no ground for the calumny. Veneziano is on other accounts an interesting painter, but nothing is known about the date of his birth or his training. He appears to have worked in several of the Italian cities. A fresco of his which was exposed to the weather for centuries came into the possession of the Earl of Crawford and Balcarres. According to the report of the trustees of the National Gallery, this picture was transferred from the wall to canvas in Italy in 1851 and presented to the collection in 1886. Over a year ago, however, it was found that the state of the picture threatened its immediate destruction, and it was hoped that the mischief might be arrested by relining. But the pigment was falling from the plaster ground in such a way that relining, which would affect only the adherence of the ground to the canvas backing, was useless, and the very reluctant recourse was had to the process of transferring the picture itself to canvas, and this was not altogether successful. Without extensive repainting it would hardly be intelligible to the ordinary visitor. When it is remembered how few are the paintings which can be ascribed to the painter, the loss of the fresco is to be regretted.

In Germany, as in all countries where militarism is supreme, questions of degree, precedence, order, &c., assume an importance which can hardly be realised in Great Britain. That fact explains the anger which lately prevailed in the Society of Berlin Architects over the arrangement of names on a tablet. A new theatre has just been completed in Düsseldorf, and, as often occurs of late years, a tablet was set up in which the names of the builders took precedence of the name of the architect, Herr Sehring. He brought the case before the Society, when, as we have said, the members became angry over what they considered was an insult to the profession. It was resolved that a deputation of the Society should interview the chairman of the company owning the theatre. It has been decided that a new tablet is to be set up in the vestibule, and in it the architect's name will come before the names of the contractors. Berlin architects must be happy when they have no greater grievances to encounter.

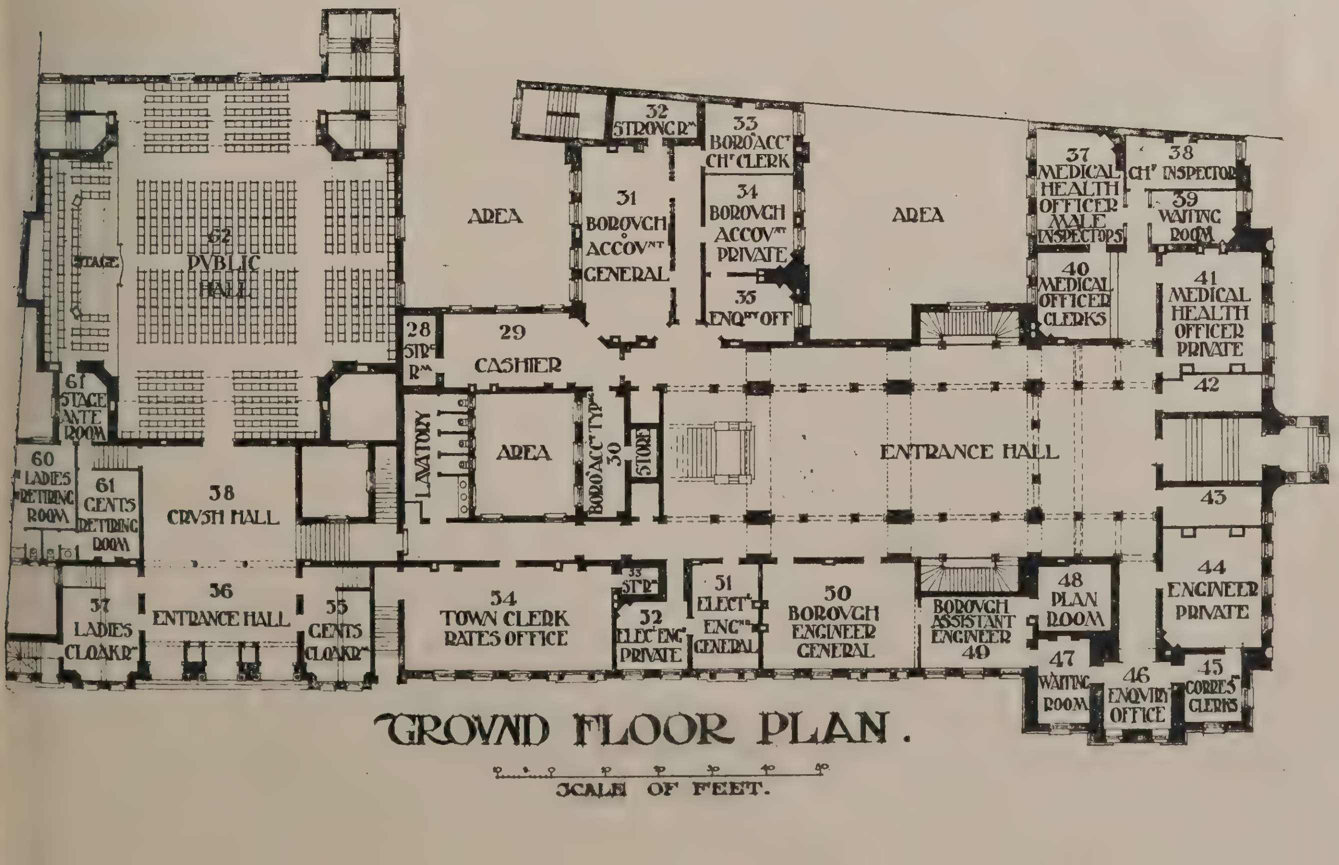
ILLUSTRATIONS.

WOOLWICH TOWN HALL: COMMITTEE SUITE OF ROOMS.

We have already published a view of the exterior of the town hall, which is near a group of other public buildings in Woolwich. We now give a plate showing the suite of committee-rooms which occupy one end of the building on the first floor. The central committee-room is a domed apartment 34 feet long by 22 feet wide, and is divided from the two adjoining committee-rooms by movable screens, by the raising of which a reception-room is formed, 60 feet long by 30 feet wide, suitable for mayoral and other functions. The wall panelling and the columned screens are in wainscot oak, and the ceiling is enriched with modelled plasterwork. The windows overlooking Wellington Street are filled with stained glass. The inscription under the central window is as follows:—"Here at Eltham Palace in Epiphany-tide of 1364, King Edward III. entertained with great splendour three noble kings, viz. John of France, David Bruce of Scotland and Waldemar of Denmark." The window in the room on the left commemorates Sir Thomas More, Lord Chancellor under Henry VIII., who was executed in 1535. His daughter Margaret was his devoted companion in adversity and his favourite child. She rebuilt Well Hall, Eltham, in 1568. The inscriptions are:—"Sir Thomas More, author of 'Utopia,' friend of Erasmus and Holbein, lived as Lord Chancellor of England at Eltham. He excelled in



FIRST FLOOR PLAN.



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sacred learning and was courageous of the truth, suffering death at the hands of his King." "Margaret, a pious and learned woman, the beloved daughter of Sir Thomas More and wife of William Roper, of Well Hall, Eltham, was the cheer and comfort of her father during his imprisonment, as his letters testify to this day." In the right window are shown the portraits of the Master Shipwright of Woolwich, Phineas Pett, and Samuel Pepys, who occupied a residence at Woolwich. According to the inscriptions, "Phineas Pett, the first Master of the Shipwrights' Company, designed and built many great ships at Woolwich for the King's Navy. Being maliciously accused of incompetency in building the 'Prince Royal,' he was tried by his Royal Master, King James himself, who graciously acquitted him." "Samuel Pepys, the famous diarist, who for some time lived in Woolwich, was a most helpful official at the Admiralty during a critical period in our Navy's history." The mayor's reception-room adjoins the committee-rooms, and is 30 feet by 20 feet. It is panelled in oak and has a columned oak window-screen which, with the doorways, is enriched with carving in the manner of Grinling Gibbons. The window is dedicated to Sir Martin Bowes, Lord Mayor of London in 1545, who lived in Woolwich. The architect of the building is Mr. A. Brumwell Thomas.

CATHEDRAL SERIES.—TRURO: WEST FRONT.—SOUTH PORCH.

A REALISATION OF BACON'S IDEAL MANSION.

The design which we publish to-day is based upon the principles of "a perfect palace" as laid down by Bacon in his essay on building. The whole plan is 400 feet from front to back, grouped around an outward and inward court. The first or principal floor shows the general arrangement of the "two several sides." "A side for the banquet, as is spoken of in the Book of Esther, and a side for the household. The one for feasts and triumphs and the other for dwelling." The banquet side occupies the front and return to the left of the principal entrance, and consists of the banqueting-hall, sculpture and picture galleries, and beyond, surrounding the inward court, the privy galleries and an infirmary, "if the prince or any special person should be sick." To the left is the hall and chapel, with the summer and winter parlours and reception and retiring-rooms. A feature has been made of the grand staircase, which is semicircular on plan; and great attention has been paid to the central axial line enabling long and pleasing vistas to be obtained. The dignity and impressions of a palatial residence suggested the Renaissance style being adopted. The drawings were submitted in the recent competition at the Royal Institute of British Architects for the Soane medallion, by Mr. C. F. W. Dening, Bristol.

ROMNEY AND PETWORTH.

A short time ago, in connection with the resurrected Turners, attention was drawn to the great landscapist's close association with Petworth. Among the art treasures of Petworth House, and one of the chief of them as far as money worth is concerned, says the *Sussex Daily News*, is a family group by the eighteenth-century portraitist, George Romney, who "divided the town" with Reynolds, when Johnson and Garrick, Gainsborough and many another "immortal" were moving figures in the life of the time. Hayley, whose home was at Eartham, and who wrote the "Life" of Romney, which has of late years become an object of quest among book-collectors, tells us that for long prior to 1795 it had been an object of Romney's ambition to place some work of his in the princely mansion of Petworth. Lord Egremont resolved to employ him on a large family picture. Not only so, but he determined to indulge his wish to execute the work in his favourite painting-room at Eartham. For this purpose Romney visited Sussex in the autumn of 1795. The issue was the famous Egremont family piece, No. 381 in the catalogue of pictures in Petworth House, showing a lady, in the character of Titania, with her four children as fairies, shooting at bats with bows and arrows. The reclining lady is on the Petworth catalogue said to be Elizabeth, Countess of Egremont, and the children, Colonel Wyndham, General Wyndham, Lady Burrell and Mrs. King. Probably the 250 guineas paid to Romney for this group is one of the highest sums he ever received for a single canvas. In early days, about 1767, he got 7 guineas for a three-quarter portrait, 30 by 25 inches, which rose by various stages to 35 guineas in 1793. His highest price for an ordinary full-length, 93 inches by 57 inches, was 150 guineas. By 1772, however, he was earning 1,200*l.* a year; by 1785 thrice as much. As an indication of how enormously pictures by him have risen in money worth during the last few decades, it may be said that his celebrated portrait of Lady Hamilton as Nature, which changed hands for 50 guineas in 1816, has recently gone out of this country for not far short of 20,000*l.*

It is understood that it was Sir Walter Armstrong, director of the National Gallery of Ireland, who identified as a study for the picture at Petworth a canvas which was picked up somewhere in the neighbourhood of Midhurst and now forms part of the admirable collection of Mrs. Bischoffsheim. One of the chief differences between the Petworth picture and the study for it is that the lady in the latter is not a portrait but a fancy figure. Hayley gives us an interesting account of the group and Lord Egremont's approval of it. In a letter to his son, written on October 4, 1795, Hayley says:—

"Pray tell our dear Romney, with my love to him, that his fair friend of Petworth spoke yesterday in the most pleasing terms of the family picture, with a lively solicitude for its being happily finished, and in such a manner as to suit the convenience and gratify the feelings of the artist in every respect."

Again:—

"His (Romney's) spirits were elevated by the applauded completion of his magnificent picture, the family at Petworth, which was now finished in the painting-room at Eartham, as the party attended him very graciously for the purpose. . . . Towards the end of September the trio of friends enjoyed a sort of triumphal delight in seeing the production of Romney's pencil, which he had so fervently wished to place as a monument of his genius in the mansion of Petworth, suspended there with splendid effect and the most friendly applause."

As to the identity of the lady in the picture, though several writers have assumed she was Lady Egremont, there was no Lady or Countess of Egremont when the portrait group was painted, nor was the nobleman who commissioned Romney ever married.

The "find" near Midhurst of a study for the famous picture recalls how rather more than half a century ago a Mr. Tomlinson, of Whitehaven, at an unimportant sale of household effects, gave under 2*l.* for a picture of a little girl carrying a doll, and her brother, toy gun in hand, with which were thrown in two full lengths of a man and a woman, now attributed to Tilly Kettle. Mr. Tomlinson, who was an ardent collector of all kinds of things, contended throughout that the group of the boy and girl was by Romney. It is said that many offers of considerable amounts were made to him, but he always refused to sell. On December 3, 1904, the picture came up for the verdict of the auction-room in London, and made no less than 6,500 guineas, the other two full-lengths, perhaps not by Tilly Kettle at all, bringing the amount up to 7,082*l.* 15*s.* This was a fairly good return for an outlay of less than two sovereigns.

Again and again during the last few years pictures for which Romney himself received only a few pounds have made thousands. His "record" in the sale-rooms stands at 10,500 guineas, paid in 1896 for the famous group of Viscountess Clifden and Lady Spencer, 56½ inches by 72½ inches, for which he himself received 80 guineas, in 1791, or so. That picture is now worth a great deal more. The same sum was paid in 1902 for "Miss Sarah Rodbard," another of Romney's 80-guinea canvases. Then in 1900 "Charlotte Pierse," 63 inches by 47 inches, fetched 7,000 guineas (original price 60 guineas); "Mrs. Dorothy Crespigny," 50 inches by 40 inches, 5,600 guineas in 1901 (original price 40 guineas); while "Lady Hamilton as Circe," 93 inches by 58 inches, jumped from 14½ guineas in 1807 to 3,850 guineas in 1890. Lady Hamilton—Romney's "Divine Lady," the "sun of his hemisphere"—was again and again painted by him in all kinds of attitudes and impersonating all kinds of characters embodying all kinds of qualities. The discovered study for the Petworth picture is to be seen in "Georgian England" exhibition at the Whitechapel Art Gallery.

THE YEOMAN'S HOUSE IN ENGLAND.[*]

(*Concluded from last week.*)

TILES were not generally used in England until the seventeenth century, owing to the scarcity of coal and the difficulty of burning them. For the same reason bricks were not employed extensively for building before Henry VIII.'s reign, though, of course, the art of brick-making, so commonly used by the Romans, was never lost in England. Formerly bricks were much thinner than they are at present, and there was little to distinguish them from tiles. The old red tiles we find on the roofs of these buildings are thicker and more unevenly burnt than our modern ones of to-day; they were, of course, all made by hand, and the holes for the pegs or nails were not so accurately placed, and being hung on oak riven laths instead of sawn straight ones, the irregularity of the tiling and the texture of the surface produces a softness and delicate play of light and shade that is very pleasing. This effect can be seen on the roof of the cottage at Mayfield. Thatched roofs, which are probably a survival of the earliest form of roof covering, are frequently met with, and here the hip treatment is even more prevalent than with the tiled ones. I have some examples from Brook Thorpe and Leonard Stanley, all in Gloucestershire, and showing the traditional gables. There is no doubt that these old houses gather a great deal of their charm and simple picturesqueness from the fact that the roofs are so unbroken in their surface and treatment, and though the little use to which the space inside was devoted and the apparent wastefulness of their construction would appal the modern builder, yet it is this evident disregard of economy that makes them so effective.

Quite apart from anything else, a roof of high pitch gives a character and dignity to the building it covers which is distinctly pleasing. The roofs of all these old houses are so satisfactory as they seem to grow naturally from the walls below, and whether of stone, tile or thatch, being of the local materials makes them seem part of the actual landscape. The cottages at Bearsted in Kent, Lower Bush and Elmstone all show this, and I also show you an example from Normandy.

At this point a few words may not be out of place with regard to these timber-built houses. Broadly speaking, as they resemble each other to a certain degree in plan and elevation, so they do in their construction, which is simple in the extreme, and, though doubtless well known to architects, some account of it may be of interest to those who have not analysed the ingenious method of their framing.

The plan was first set out, and a base or foundation wall built, generally of brick or stone, high enough to keep the wood all well above the ground, as at Boughton, in Kent. Into this cill-piece heavy storey posts of timber were fixed upright about 7 or 8 feet apart, those at the angles being larger and formed of the butt of a tree placed root upwards, with the top part curving diagonally outwards to carry the angle-posts of the upper storey, as shown in the view of Stone Hill Farm, Chiddingly, where also the typical Sussex stone slates can be seen. Upon these main posts beams were laid across the building, projecting forward some 18 inches in front of the framing below; into these beams others were connected longitudinally, and to these again the floor joists were tenoned, projecting the same distance as the main beams. The framing of the upper storey then followed that of the ground floor, excepting that the plate or cill was now laid on the ends of the overhanging timbers. In the sixteenth century the ends of the joists were often covered with a richly moulded (and carved, as at Lenham) fascia; but later this was abandoned, and the ends of the joists were merely rounded off.

The projecting storeys of these timber houses, which with their quaint and decorated fronts and many gables are so beautiful, were not born of a mere freak or an artist's fancy. They were copied from the town houses, and these overhanging stones were intended for use, namely, to give shelter from the sun or rain to the stalls and books and to the goods displayed in the streets; and though there was no actual need in the country for such projections, the custom was adopted until it became almost traditional.

The house in its first stage was a mere timber skeleton or "carcass," as it was then called, and until the framing was well advanced had to be stayed or propped up from the outside—the slots to receive these stays are still showing in the larger timbers of many of the houses. The spaces between these main uprights were then filled with windows or timber framing, the latter generally about 8 or 9 inches apart, the closeness of the timbering being an indication of early work, and it was not until later that they were set further apart and curved and shaped braces introduced.

Though the general character and appearance of these Kent and Sussex houses bears some resemblance to those of Shropshire and Cheshire and the West of England, the elaborate panels, filled with curved braces and cusping, so typical of the latter districts, are seldom seen in Kent, though there is a somewhat isolated example at Mayfield, in Sussex. These were contrived by using the bent and twisted pieces of wood obtained from the smaller branches and fitting them into the panels formed of the upright and cross rails. It has been suggested that the prevalence of this kind of ornament was due to the shape the trees assumed from the force of the wind which is so frequent in the West of England, and which bent and distorted the trees and so supplied many more crooked than straight branches. I have some typical examples from Little Moreton Hall, Cheshire.

These houses were chiefly built of oak, which generally shrinks, and as their construction depends in great measure upon the security of their mortises and tenons, when the joints shrank apart or decayed and the buildings settled they were, in order to keep out the weather, either plastered all over on the outside, hung with tiles or covered with deal boarding—indeed, very many of the tile-hung houses one sees throughout Sussex are the old sixteenth-century timber-framed ones in a new shell, as at Goudhurst, in Kent. The windows, as a rule, in the timber houses were small, with moulded frames and mullions and filled with lead lattice-glazing. Sometimes they were treated as oriels, swung forward on richly-moulded sills supported by cut and shaped brackets. An effective arrangement was to place a bay window carried out on the first floor only, as at Chiddingstone, but more frequently taken up from the ground and under a gable which projected forward and overhung it, as at Beckley. The large boards and finials to these gables were always decoratively treated and many still remain. At first they were merely stout boards cusped or shaped at the edges and later ornamented with perforated tracery and carving, as at Eynsford and Cranbrook; a beautiful example is still to be seen in the High Street at Burford, in Oxfordshire.

Turning again to the stone districts we find the walls of the houses always built of stone never less than 18 inches and often considerably more than 2 feet in thickness; they are built of either rubble in thin layers, or in deeper courses of dressed stone, or in larger blocks of dressed stone, the character of the walling depending in great measure upon the way in which the stone comes from the quarry. In Wales and Westmoreland the nature of the stone is reflected in the walling, as at Plas Mawr and Ambleside.

In the seventeenth century the employment of the stone lintel was universal, and one is struck by the almost entire absence of the arch in these buildings—externally the openings were never made wider than the stone would carry, and stout oak beams were laid across the door and window opening inside.

The four-centred door head out of one stone is the commonest treatment, at first steep in outline as at Laverton, then shallower, until eventually it became the flat lintel. Occasionally the doorways were sheltered with a projecting hood on moulded brackets as at Chalford Hill, but in the stone districts a point to be noticed is the absence of porches so common in the timbered houses.

Now the doorway, or entrance, has always been the centre of attraction, and that upon which the best workmanship is most often found, for if there be no ornament anywhere else it is generally here that some effort was made. It was always in the doorways, fireplaces and memorial tombs in the churches that the old builders tried to exercise their ingenuity and originality, and where you will notice the influence of change of style and fashion, as at the Warren Farm. The proportion of the doorway also greatly affects its character, a wide and low opening conveying a sense of welcome and comfort that is seldom obtained by a tall and narrow one. In the timber houses the porch was always made an interesting feature, and the examples from Luntley, Shropshire, Handforth Hall and Cheadle, and the old school-house at Webley, are very typical and characteristic.

The windows, again, were always stone mullioned, filled with lead-latticed panes and wrought-iron casements, and whether in stone or wood were nearly always treated in the same way, 12 to 16 inches wide between the mullions, and in the small houses we are dealing with seldom more than one light high. The number of lights in nearly every instance diminishes in each succeeding storey. On the ground floor the windows have four or sometimes six lights, with a heavier central mullion, the next storey will have three and in the gable will be two. It was the invariable practice to lessen the number of lights as the windows ascend into the gables. The reason for this may have been owing to the dearness of glass in the sixteenth and seventeenth centuries, which in these small houses would doubtless govern the size of the windows, those in the living rooms being generally the largest. Indeed, the smaller the window, as a rule, the older the house. Before the time of Henry VIII. glass windows were rare except in churches and important houses, and when it eventually became cheaper the fashion arose of making the windows as numerous and large as possible.

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[*] A paper by Mr. E. Guy Dawber, F.R.I.B.A., read at Carpenters' Hall on the 15th ult.

The symmetrical disposition and squareness of the plans and the way in which they were roofed enabled the windows to be easily arranged to come centrally under a gable in every case (as at Tocknells and Whittington), a treatment also met with in the timber and brick built houses.

In the stone houses the windows are always placed on the outer face of the wall, so that inside the deep recess gives that delightful sense of comfort and warmth only obtainable when thick walls are used. Bay windows are not of very frequent occurrence in these small houses, but in the towns and villages they were sometimes used with very happy effect, as at Duddington, in Northants. Where the frontage to the street was very narrow, the entrance was placed in the centre with a bay window on either side, terminating in gables above, as at the Swan inn at Lechlade in Wilts, and at Campden in Gloucestershire, where we find an almost similar treatment, but without the bay windows. No description of the windows would be complete without speaking of the dormers, the most characteristic feature of these stone houses. Their origin, which is very simple, arose in the following manner:—The buildings were generally roofed about 12 or 15 feet above the ground, or some 4 feet above the bedroom floor. This did not give sufficient height for the windows to be placed under the eaves, and as the bedrooms were always constructed partly in the roof, it was necessary to carry up the side wall and form smaller gables with windows in them, which thus became dormers, as at Saintbury. The lead-latticed glazing of all these houses forms quite an integral part of their construction, and the mullioned window without its accompanying small panes of glass is but a sorry sight.

In the early houses we find the panes based upon a variation of the diamond and the square, sometimes very small and intricate, but always such as the village glazier could cut and put together. Towards the close of the seventeenth century the rectangular oblong panes became very popular and continued down to the end of the eighteenth century with but little change. The leading of the small panes of glass enabled the texture of the masonry walls to be carried, as it were, through the windows without a break, getting a continuity of surface that is very pleasing and which these old builders thoroughly appreciated, as at Broadway. The mistake so often made to-day is in glazing windows with a single sheet of glass, producing a cold effect inside and breaking up the exterior with cavernous spots of black and emphasising the openings in a manner which was never intended. In these houses the rooms were generally about 7 or 8 feet high, or even less, for so long as a man of average height could walk about without knocking his head against the ceiling every one was satisfied.

In many of the houses one or more of the rooms have the open-beamed ceilings richly moulded and sometimes carved, but as time went on this delightful treatment died out and square beams and joists were used, to be finally superseded by the plain plaster ceilings. The main beams were often placed in the rooms without the least regard to the position of the windows and fireplaces over which they happened to come; indeed, to this may be attributed the loss of so many old houses by fire, for the modern grates burning coal put into the old openings set fire to the beams built into the chimneys.

Occasionally we find the ceilings richly modelled in plaster, with finely panelled rooms and decorated fireplaces, but, as a rule, in the houses we have been dealing with they are not frequent. The workmanship of everything, however plain and simple, inside the houses was thoroughly honest and good. It seemed to be an axiom that every house, irrespective of its size, should contain some work of interest and charm, and whether in the wrought-iron hinges to the doors or fasteners to the casement windows, the individuality of the craftsman shows itself and stamps his work with vitality and interest.

In these yeomen's houses the work was all done by local men with native home-grown material. They were compelled to rely upon their own natural resources, and, as their intercourse with the outside world was limited, the builders for years handed on the same methods until eventually they became almost traditional. But although all these houses were built on well-recognised principles, yet we may traverse England from end to end and not find two houses exactly alike, and it is this infinite diversity of form and variety of treatment that makes these houses stand out so pre-eminently as a phase of domestic architecture.

If we turn to the house at Aston Subedge, in Gloucestershire, we find it consists of one simple parallelogram—the main doorway in the centre with two rooms immediately to the right and left of it, and staircase by the chimney in the middle of the house. The house is now used as the village school, and its interior is altered by partitions, but the original plan is reflected in the elevation, which shows a roof unbroken from end to end, with the exception of the two dormers over the entrance doorway and the window beside it.

The farmhouse at Willersey has a somewhat similar plan with a series of windows carried up as dormers into the roof above, all thoroughly well balanced and giving to the exterior a clue to the arrangement of the rooms within; the heights and widths of the windows and the disposal of the gables leave nothing to be desired, and the whole composition, free from any striving after effect, is an example of simple direct building and a lesson in the sensible use of material.

In these cosmopolitan days the use of railways and easy means of transit have almost obliterated the older crafts, and the advent of bricks and mortar, cheap foreign timber, blue slates and corrugated iron is very rapidly driving the local materials and methods of building out of use. This cannot be sufficiently deplored, for, apart from its effect upon the employment of labour, it is a matter of serious import that the old handicrafts that made this country so pre-eminently beautiful are dying out. The total lack of encouragement given to workers in these simple trades and the introduction of methods of building quite at variance with those indigenous to the country, combined with the enforcement of restrictive building by-laws, are bound in the course of a few years to have a disastrous effect, even if they have not done so already.

In the districts with which we have been dealing it is now a rare occurrence to find new houses built with local materials and in the old manner, and, if they are so, it is chiefly by people who have at heart the old traditions and dislike new and strange innovations.

Again, the building by-laws which have been in use for many years past have been responsible for the decline of much local building and tradition. In the districts where these restrictions are in force not one of the houses which I have shown you would be allowed to be built to-day, for in some way or other they all transgress the regulations laid down by our wiseacres.

By-laws for towns and cities and crowded districts are essential as safeguards for the welfare of the general community, but that a man who builds a house to-day away in the country should not be allowed if he wishes to put thatch on his roof, should be compelled to make his rooms so high and his windows so large that no fire can warm them, should have to use only certain materials and only in certain ways, is a grandmotherly interference with the liberty of the individual, for which there can be no possible excuse.

We are apt to forget that it is in these villages that our country life is written, and that the sturdy yeomen who built these houses and quarried the stone and cut the timber with their own hands formed a national and distinct style of architecture.

And, in conclusion, is it out of place to raise a plea on behalf of these eloquent though silent witnesses to the craftsmanship of our village ancestors, and to urge that those who have the care or reparation of old cottages and farmhouses should treat them with a gentle hand and more tender regard? Unfortunately, many are being swept away, and the dwellings of our forefathers, so closely interwoven with the life and history of the country, and possessing such an intensely human interest, are being rapidly destroyed in some cases to make way for what can be regarded as but doubtful improvements.

Go where we will and contemplate any old building untouched by the hand of the restorer, and it is impossible not to be impressed by its beauty and subtle charm—the mullioned windows and latticed panes, the roofs a kaleidoscope of varied colours, the venerable walls covered with lichens, the absence of any meretricious or unnecessary ornament and the wonderful feeling of homeliness that pervades every feature—all combine to produce the essence of simple and beautiful architecture.

I would not suggest that, merely for the sake of their antiquity or picturesqueness, unhealthy or insanitary houses should be retained, but I would most strongly urge that where it is possible to save them we should hesitate before breaking any of the few remaining links that bind the villages and country towns of to-day with the interests and associations of the past.

On the motion of Viscount Dillon, who presided on the occasion, a hearty vote of thanks was accorded to Mr. E. Guy Dawber for his excellent lecture and series of beautiful views, which would be an encouragement to study the domestic architecture of our country, and to the Master and Wardens of the Carpenters' Company for the use of the hall. A vote of thanks was also tendered to Viscount Dillon for taking the chair.

ART IN PAINTING AND PHOTOGRAPHY.*

A SHORT time ago I received a newspaper cutting from a friend of mine, who knew I was to have the pleasure of addressing you this evening on the subjects of painting and photography. The paragraph it contained was evidently part of a correspondence being conducted in the paper on what were considered to be the rival claims of painting and photography as the exponents of art. The discussion apparently had taken the turn of weighing the claims of the two exponents, who figured in the letter under the title of "The Man with a Conception" and "The Camera Man." As the argument progressed, and the *pros* and *cons* were given, one read of the ultimate triumph of "The Camera Man" and of the eventual downfall to ignominy of "The Man with a Conception," who would no doubt, it was politely intimated, "finally disappear."

Reference to a matter of comparatively such small importance as this letter may appear to be slight foundation for a paper concerning our subject, but there is, unfortunately, a good deal being said and printed of a like nature in connection with it, which is only of a mischief-breeding character, that can be for no good, and frequently drags men of repute into an idle argument which they presently regret having embarked upon. Now I submit that all such discussions are irrelevant, and are but a waste of time, for it is foolish to spend energy in disputing who is going to do a thing best while the time so employed might be given to the subject itself. The study of art is the object of both fraternities, and whether the man devoted to that object elects to work with the palette or the camera, he must remember that he is engaged upon the study of a serious and beautiful subject, and realise the fact that its followers have far more to gain by working in unity than they could every achieve by disputing on the way. If the art of futurity is to be produced by the camera, well and good; let us be thankful to know that the future will contain art. But if such be the case, that the camera be the instrument of it, it will still require to be handled by a man with conception, for, as we know, art is found only in the personality of the individual and does not depend upon any special apparatus. In the meantime let all followers of art assist each other, for it is a profession which enjoys the dignity of standing by itself, in this kingdom, without assistance, and with not too much of encouragement, for the spirit of the age is a commercial one, and the public moneys are utilised by the State for the construction of huge engines of war for the protection and development of this spirit, leaving the gentler arts of peace to shift for themselves.

Art itself at the present day, or, perhaps, rather pictorial art, is in a somewhat eruptive condition, and it might be advantageous for us to give a short time to its consideration. Periodically, for all time, the art of painting has been subject to the vigorous action taken by groups of strong men who have felt called upon to assert their independent views, and to act in concert in supporting them. These groups of men have always been so vital in their work, and have so tenaciously adhered to their aims, that in course of time they attain to the dignity of being entitled "schools." The particular individuality of each of these schools is always associated with the emphatic insistence upon one or other of the canons of art at the expense of the remainder, either forcible dwelling upon the quality of detail alone, or tone, colour, light and shade, or general effect. There are those among us who can remember the appearance of schools affecting all these features, back to the "pre-Raphaelite" body, whose passion was excessive detail. These movements are generally well timed, and indeed may be considered to be the natural outcome of their age, the calling attention to some weak point in the art of the period; and even if, in the enthusiasm of the quest, its votaries outstrip the bounds of moderation, the gain to the common cause is great.

The movement of the present day we are all familiar with, under the title of "Impressionism." Impressionism differs from the schools that have preceded it in the fact that it makes no effort in the direction of adding to the existing practice of painting. On the contrary, it subtracts a good deal from it. It contents itself with a memorandum of the effect, and avoids the risk of contending with other qualities. The principal notes are struck, and left, without any graduation or attempt at delicacy or detail; the resulting effort, regarded as a picture, stops short just where difficulty begins—that of showing knowledge and management in the more subtle passages of the painter's art. The canvases are really beginnings of pictures, left in the state which has been known from all time among painters as the "laying in" stage. The facility of execution which this class of work offers the painter is necessarily effective decoratively; and a certain number of imitators, captivated by its facility and novelty, are following the lead given, as other men have followed other leads—mistaking a part for the whole—and they will have the misfortune of leaving no art legacy behind them. But the sobering influence of time in all these cases is the healer, and though in the course of nature the dying out of the school of the day makes room for that of the next, the good which is found in them is duly gathered by and incorporated into the beautiful things we know as art. So those of us who aspire to know of art in its larger sense must put ourselves outside the influences of these factions as sole teachers and turn to the truly great achievements of the past. As form is undoubtedly the greatest and strongest element in art, so is the sculpture of ancient Greece the finest art the world has ever seen or may see. What has been lost to us in the destruction of the paintings of this period we shall never know, but we have the masterpieces of the Italian, Spanish and Dutch schools for our guides. The great elements of the work of these masters appeal alike to the painter and photographer; the same lessons in strenuous constructive lines, masses of light and shade and harmony of colour.

Apart from these giants in art of the past, we have more modern painters, men of our own time and country, whose work is worthy of ranking with the highest. It is not the fashion just now to dilate upon the work of those three great painters of our English school, George Mason, Frederick Walker and Sir John Millais, but their position is an undying one, and to them mainly the modern art of this country owes its glorious heritage of colour, which not long since made English art respected throughout the world. This legacy has been neglected of late years, and has suffered from the imitations of foreign methods, which have unfortunately tainted the inspirations of many men whose pride it should have been to uphold the reputation of what can almost be considered a trust left in their charge. Let us strive at all events to be original, not alone in a national sense, but as applied to the individual. No man yet obtained the respect of his fellows by founding himself upon another. It is so easy a thing and so poor a thing to be an echo.

Modern photography has every reason to be warmly congratulated upon the great strides it has made, not only in matters pertaining to its scientific side, but also in the more important one of artistic quality. In the pictures of landscape we have a simple rendering of nature without any desire to dress it up or prettify it, which is most healthful. The coming to the front of this appreciation of simple dignified subject matter is a striking feature in the advance of late years. Landscape photography of this order is the outcome of the most careful study, for the inexorable lines of nature cannot be moved, and any incongruity can only be circumvented by discriminating choice of the point of sight. Sometimes this has not been overcome, because, apparently, it could not be overcome while retaining some important feature necessary to the picture. The difficulty of control of the subject is, doubtless, the stumbling-block in the way of landscape photography; but when we remember that these very many fine things have been produced under hampering restriction, the prospect of what might be possible in directions where the artist had greater facilities is of the utmost interest. The representations we have of studies of the sea are very impressive, particularly those which are not too sharp in their definition, and where the sense of movement has not been checked by a metallic crispness. In these we can estimate the beauty of the drawing seen in tumbling water and the character and form of the masses of flying spray. Some of these breaking seas are splendid things. Many of the scenes showing the effect of evening are pleasing enough, though the prevailing tendency is to indulge somewhat too freely in indistinctness of focus, or some granular process is employed in the making of the prints, which invests the entire picture with the same quality. Nature always has a decisive note somewhere, of more or less emphasis. The work done in the direction of interiors is, with the facilities offered by the use of modern apparatus, most perfect as a record of the image before it. The figure subjects that one sees are fewer in number than the landscapes, but are perhaps the more attractive in one sense, for the photographer has greater responsibility here in his personal conception and arrangement of them, and his capacity as an artist is more directly brought before us. Many of these subjects are excellent, and some contain aims of a high order which would seem to forecast the future of photography. For this is the direction in which the art ought to be strong enough to assert itself, where it can dominate its subject and invest it with the creative.

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* A paper by Mr. J. C. Dollman, A.R.W.S., read before the Society of Arts on the 7th ult.

In the commercial world photography is playing a strong part for the publishers, and in the direction of illustrated journalism there is no doubt that it is doing a useful thing. I think that we must all admit that the *bona fide* character of a photographic picture, which illustrates a topical subject, is one of far greater interest than the one of idealised treatment which we were familiar with in the past. We are bound to respect such pictures as fact, as true representations of the incidents depicted, which is exactly what is wanted for the purpose. We want in such cases to know what the incident was like, not what another man thought it was like. These matters, however, do not pertain to art, though there is one phase of such photographic work which has done an immense service to the world, and that is, it has enabled those who live thousands of miles away to have a complete image of people and countries they may never hope to see personally. Photography has practically brought to every country a true picture of all others. To science, as well as art, this is a great gift, not to mention the unspeakable interest to many thousands of families who are scattered widely apart. This is the great feather in the cap of photography.

One of the reasons of the greatness of art in the past is found in the fact that people lived in times when they were surrounded by the beautiful to a far greater extent than at the present day, and they became so familiar with it that a high standard of appreciation was reached not only by the exponents of art, but by the public itself. In Greece the human figure was, of course, the dominant influence, in Italy the fine personality and grandeur of costume, in Holland and Spain the characteristic and the picturesque. Modern life cannot permit these surroundings, but the representations of such things hanging upon the wall, as painted by the great men of those times, produced an instructive influence which should be found in all establishments devoted to art. I am, unfortunately, rather ignorant of the methods of education which prevail among photographic societies, and my knowledge of photography of to-day is founded to a great extent upon the exhibitions of pictures that are seen annually on view in London. The scientific side of the subject evidently is well provided for, but one often wonders whether there is a course of training in art pursued in the societies independently of the use of the camera itself. The student in painting is for some years occupied in schools of art or the studios of painters learning not only his craftsmanship, but educating his taste and forming his standard of beauty in the study of the fine examples of art he finds placed before him. The importance of this can be hardly over-estimated. A man's cultured taste is not born with him. He, of course, may be born with a gift for art, but that gift is profitless unless it is educated and developed. Art is a most serious as well as a most beautiful study, and the student not only has to master the executive of his profession, whether with the palette or with the camera, but he has to learn to compare and mature his judgment to be able to select, for selection is the great principle of art. A landscape-painter who has been drilled in the schools can apply the principles he has mastered there to the real work of his life—landscape-painting—equally well with the man who intends to paint the figure. This would appear to be a vital element in the education of a student who is aspiring to produce works of art with the camera, for he, unlike the painter, has not the power of alteration or elimination when once the photographic plate is exposed. He therefore has to use the keenest judgment and taste in the preparation of his subject beforehand, which must necessarily be a most difficult thing to do, and will test his knowledge of art in a high degree. I am, of course, here alluding to the treatment of the figure subject, for with landscape the power of creation does not lend itself so freely to photography, and beyond the choice of point of sight and the waiting for the appearance of a satisfactory effect upon the scene, the scope afforded to the photographer for the exercise of the creative is limited by the intractability of his subject.

I do not know whether there exists such an institution as a photographic school for students to study from the living model, but such a school must undoubtedly prove of much value; and in the study of the works of masters, by grouping human figures with an exact fidelity to resemblance, pose, lighting, and detail to the original picture, under the tuition of a photographer who was a master of the art side of the matter, an opportunity of a most instructive nature would be found. If this idea should be new it may possibly not produce a favourable impression, for few innovations do. Personally, I believe that the greatest things that photography is going to do in the future will be associated with the figure; for, in connection with that, the photographer will have the best opportunity of developing and showing his creative power in art, and it is this very quality of the creative which is the charm. When we remember the exquisite modelling of flesh and the tenderness of tone which a good photograph can give, it seems a great loss that these qualities are not made available to the full extent. A student trained in art, working with fastidious care in selecting his model, and in conducting the whole operations, would, I am persuaded, if he was a man with an imagination, produce some photographic pictures which would cause a sensation. The actor's is an art—how much greater to make a figure so perfectly play a part that the resulting study should be received as a great picture. Beautiful as quantities of the landscapes are which are seen in photographic exhibitions, they are the art imitative compared with the results which are possible in this direction at the hands of the right man. If the day should come when a man with the conception and insight of our painter, G. F. Watts, and who combines that power with a photographic executive of the greatness of Mrs. Margaret Cameron's, the world will then see for the first time what it is possible for photography to achieve.

But the pursuit of pure art is a thorny path to tread, and if a poor man essays to venture his fate in this direction he must do so prepared to lead a life of stern self-denial and extreme patience. Even then he may have to contend not only with vicissitude, but with actual want; for recognition even of a truly distinguished man comes sometimes so late in life as to be valueless to him. A sadder case of this kind it is difficult to quote than the Frenchman, J. F. Millet, the painter of "The Angelus." As there may be some present who are not acquainted with the struggle this eminent man had, perhaps a few facts from his life may be enlightening. The extracts are from Millet's life by his friend Sensier, which is to be found in Vol. XX. of *Scribner's Monthly.* Sensier relates how Millet, though leading the simple life of a peasant, could barely obtain the necessaries of life for his family, and this was mainly done by his painting signboards for a few francs each, struggling to pay off his debts to the local tradesmen for their daily food. "Amidst these miseries," says Sensier, "his head always ill, and disquiet and fear always following him, Millet painted his most beautiful works—'The Gleaners,' 'The Angelus' and 'Waiting.'"

"The Angelus" was painted in 1859, and sent to Paris, where it lay two months without an offer being made for it. This year he writes to Sensier :—

"It is frightful to be stripped naked before such people, not so much for one's pride, which of course suffers, as because it is impossible to get what we need. We have wood for only one or two days, and we do not know how to get it, as they will not give it to us without money. I am suffering and sad. Forgive me for telling you these things. I do not pretend to be more unfortunate than a lot of other people, but each feels his own pain. . . . I am working on the drawings of Alfred Feydeau, whose money I beg you to send as soon as you get it, for the children cannot be without a fire. Try, my dear Sensier, to coin some money with my pictures; sell them at any price, but send me one hundred francs, fifty, or even thirty."

Thirty francs—twenty-five shillings.

This was the year he painted "The Angelus." He died, as Sensier says, "killed before his time, by the endless battles in which his strength could not but fail." This is, I am afraid, very gloomy reading, but it is far from counting as the solitary instance of the world's greatest treasures being wrung from suffering humanity. It is an account which does not apparently encourage a novice to try his fortune in the same direction. But to such a man as this work was more important than life, and the world reaps the benefit, however much it may commiserate the sufferings of his family and himself.

I should like to make a few remarks upon one or two subjects, as a painter, though the subject-matter is more or less photographic. The first of these is what is called "Instantaneous Photography." Some time ago we had a visit paid to this country by a lecturer whose wonderful photographs of moving animals immediately arrested the attention of artists of all kinds. If the lecturer had contented himself with his own department, the photographic analysis of the movement of animals, all would have been well, but he demonstrated by single records of action, that is to say, the action that is found in the 1-500th part of a second, that the movement shown in the pictures of animals by Landseer, by Rosa Bonheur and others was incorrect. This is another example of mistaking a part for the whole. It is the object of art, in representing movement, to communicate to the senses of the spectator the sensation of movement as it appears to the human eye, and not as it appears to a photographic lens worked by a shutter at 1-500th part of a second. For instance, if a cart-wheel, revolving quickly, is photographed by such a quick apparatus the resulting picture conveys the idea of a wheel at rest, for every spoke and detail is sharply defined. But contrast with this the conventional way of drawing a wheel revolving, a circle with a few irregular radiating lines proceeding from its centre, and you at once get the sentiment of motion. This is art. The other is mechanics. When the series of pictures was shown one at a time the quaint and extraordinary action of the horses provoked the audiences to amusement; yet when they were shown in quick rotation in the biograph, and gave in their combination the suggestion of action which the human eye can appreciate, the applause of the spectators testified their pleasure. This is to be said of all representations of movement by art—that they shall convey only to the eye what the eye is limited to seeing. Analytical demonstration beyond this steps out of the domain of art into that of science. It is the duty of art to represent the typical and not the exceptional. Please do not gather from this that I am not alive to the intense interest which subjects taken with the hand camera always possess. The photographs so taken must certainly appeal to every lover of nature—if they have had enough exposure.

Another subject I should like to dwell upon is the photographic portrait, taken direct, on a fairly large scale. These portraits sometimes have a certain quality about them which prevents them being accepted as successful likenesses, although the expression is admitted to be natural and the features individually faithful in identity. Now I would submit the opinion that this is the result of the camera being brought too close to the subject, and therefore exaggerating the perspective view of the face. While the human vision consists as it does of the combined images of the two eyes, the vision of the camera depends upon its single lens; and though a perfectly satisfactory image can be obtained at a certain distance by the two human eyes, because from their different positions they are able to look more or less round the sides of an object, the camera lens has but one point of sight, and from the same distance would yield a very different image, because it does not see round the sides of the object. This leads to undue prominence being given to the nose and front planes of the face. As an illustration of what is meant let us suppose a view taken of the front face of a human head as a model, so close to it that the ears would not be seen by the photographic lens, as they would lie behind the projecting cheeks of the face. The two human eyes at the same distance from the face of the model would see a portion of the ears, because from their two points of sight they would see round the cheeks of the model to some extent. The point of sight therefore for the photographic lens to be placed, to obtain the same view as that of human vision, is at the apex of the cone of rays which includes the visual angles of the two human eyes. The stereoscopic camera, with its twin lenses placed apart as human eyes are, would obtain the same view of the model as the human vision—that is to say, the combination of its two pictures would give the same view. This illustration is, of course, a much exaggerated one, but portraiture is such a subtle thing that the slightest variation in the proportion of the features is to be guarded against as a disturbing influence, and this difference between the human vision and what we may call that of the camera should be remembered at all points of sight.

The other subject I will touch upon before concluding is that of diffused light seen in the interiors of buildings. Photographers have a wholesome dread of the quality which is called "halation," and while it certainly is an eyesore to see the tracery of a window obliterated by a flood of bright light, I really think it is quite as uncomfortable to have the detail of a window sharply picked out like the working drawing of an architect. The effect of diffused light about the interior of a cathedral is a most poetic element, and is one which some of our great interior painters have seized upon to construct their pictures with. Perhaps a medium course between the two extremes would be the safest one to adopt. At all events, if the photographer wants to make a picture, and not a portrait, of an interior, let him avail himself of this opportunity of obtaining such beautiful gradation of tone as the occasion offers.

It is this very quality of luminous haze that was so largely employed by Turner in the beautiful sunset scenes of his, in which he deliberately introduced the sun itself, and made magnificent use of the play of light upon the atmosphere, in managing the effect of his picture. It is well to speak of this great man Turner as an "Impressionist," for that he most certainly was in the fullest sense, for he conveyed not only a most gorgeous impression of the effect of the scene represented, but also the detailed impression of the most infinite number of subtle gradations in the beautiful tones of distances, from the delicate film of the extreme horizon to the strong and full-blooded modelling of the foreground of his picture.

I have tried to discuss our subject by a high standard, which is the only one possible to take with the question of art, and it is the standard that all serious aspirants have to abide by in our profession.

It is a beautiful profession, and is, to a great extent, like virtue, its own reward. All that we, the members of it, can do, in its furtherance, is to strive to hold the mirror up to nature; to tell the truth, the whole truth, and nothing but the truth.

Correspondence

The Liverpool Reredos.

Sir,—In an article in *The Architect* of March 23 on the proposed reredos at Liverpool, the comments on the comparatively late dates of the Ascension as a subject in Christian art, and its unfitness for a reredos, especially in sculpture, appear to have a solid foundation. The reredos itself is, however, a comparatively modern ornament, especially in England, and the Crucifixion in a reredos is by no means common here. At the moment I do not remember if in the Jesse Tree at Christchurch, Hants, one of the most beautiful reredoses we have, the Crucifixion is inserted. The only example I can specially remember is at Winchester.

The proper place for the crucifix is, of course, the rood-screen, or the entrance to the chancel, excepting the small one on the altar.

To a certain extent the Bishop of Liverpool is right. The Church is triumphant, and as art emerged from its swaddling clothes, even in the catacombs Our Lord in Majesty, seated or standing, is a dominant subject. We may take, as examples, that in the catacombs of SS. Peter and Marcellinus, of the sixth century, in which Our Lord is sitting, and those in the cemetery of Generosa and in SS. John and Paul, in which He is standing. Even in the earlier paintings of the Crucifixion at the back of altars Our Lord is vested in the colobium with the laticlava, reigning from the Cross; to wit, those in the cemetery St. Valentine, SS. John and Paul, and in S. Maria Antiqua. On the other hand, the bishop appears to have overlooked the fact that since Christianity has conquered and the Church has reigned, the Crucifixion has been nearly always placed at the entrance to the sanctuary, as well as in it, on the altar.

Perhaps, however, the very object of placing the Crucifixion on the altar or behind it, to signify that the Eucharistic sacrifice is a continuation of the Sacrifice on the Cross, is really the point of the objection after all.

But why sculptured reredoses, those awful collectors of dust and dirt, especially in smoky localities?—Yours,

W.

GENERAL.

Mr. John Belcher, P.R.I.B.A., has selected, at the request of the St. Pancras Borough Council, for a limited competition for new central library the following architects:—Mr. Maurice B. Adams, Mr. J. S. Gibson, Messrs. Mallows & Cross, Messrs. Russell & Cooper, Messrs. Wills & Anderson and Mr. E. Wimperis.

Mr. William Boulton, C.E., late burgh surveyor of Aberdeen, died on Monday. Mr. Boulton, who retired in 1892 after twenty-two years' service to the Corporation, was in his eighty-sixth year.

The Forty-sixth Annual Dinner of King's College will be held at the Hôtel Cecil on Monday, May 7. Mr. Justice Grantham will take the chair.

Mr. Ernest Rüntz read a paper last week before the South Wales Architectural Society at Cardiff on "Hostelries, Ancient and Modern."

The Egyptian Government have granted to the Liverpool Institute of Archæology, through the hon. secretary, Mr. J. Garstang, a concession to make excavations on the famous site of Abydos, in Upper Egypt. There has been a considerable amount of rivalry among scientific explorers who were also desirous of excavating there.

The Society of German Engineers, the Verein Deutscher Ingenieure, will hold a congress in Berlin from June 10 to June 14 to commemorate its jubilee. The present membership is more than 20,000.

Mr. Asquith, in a printed reply to Mr. Napier, M.P., says that His Majesty's Government regrets that there is no prospect of the extension of the National Gallery, asked for by the trustees of that gallery, being carried out in the approaching financial year, as it has not been possible to make provision for it in the Estimates. The question will be further considered in the course of the ensuing financial year.

The London County Council decided on Tuesday that the new park at Denmark Hill, which is about to be laid out, should be called "Ruskin Park," in view of the fact that John Ruskin lived in the immediate vicinity.

The St. Petersburg Society of Civil Engineers have received instructions about the preparation of designs for a building in which the Duma—the visionary council—is to legislate for the Empire.

Mr. W. R. H. Chipperfield, town surveyor of Ladysmith, and formerly surveyor and engineer to the Atherstone District Council, has died in Ladysmith. While out riding he was thrown from his horse, and sustained internal injuries to which he succumbed. During the time he held the appointment at Ladysmith Mr. Chipperfield carried out extensive schemes of sewerage and water supply.

The Abbey Church at Nuneaton, which was erected in 1160 and has since the Reformation fallen into ruins, is to be rebuilt at a cost of 14,000*l.* The new structure will be built as far as possible on the foundations of the old.

The Photographic Survey of Sussex, which has been established nearly two years, has dealt with thirty-nine sections (each measuring three miles by two miles), and has 685 photographs. It is desired to extend the work over the entire county.

A Special General Meeting of the Royal Institute of British Architects was held on the 3rd inst., when it was unanimously resolved that the general principles of the report and recommendations of the registration committee, dated March 20, 1906, be adopted and the details referred to the Council for further consideration and report to the general body. It was also resolved that the Council be requested to take the necessary steps, when the scheme is perfected and approved by the general body, to apply to His Majesty the King for a revised or supplemental charter and to prepare and present a Bill to Parliament.

The Greenwich Antiquarian Society have opened a fund to be devoted to carrying out the explorations in Greenwich Park. It is desired to determine if possible definitely the line of Watling Street, and to ascertain the object and perhaps the approximate date of the earthworks near the Vanbrugh park gate. These earthworks are marked in the Ordnance Survey of 1871.

The Court of Common Council have decided "that, having regard to the great popularity of the loan exhibitions in the Guildhall Art Gallery, it be referred to the library committee to consider and report as to the desirability of holding a loan exhibition of pictures in the Art Gallery in the summer of 1907, and the probable cost thereof."

The Huncoat (Lancashire) Parish Council has resolved to remove the village stocks into a prominent position, "in memory of the good old days when people were put in them."

The Committee of Selection of the Royal Academy for the present year consists of Mr. Ernest Crofts, Mr. Frank Dicksee, Mr. T. G. Jackson, Mr. David Murray, Mr. W. W. Ouless, Sir W. B. Richmond, Mr. J. S. Sargent, Mr. J. M. Swan, Mr. Hamo Thornycroft and Mr. W. F. Yeames, with the President as Chairman. The hangers will be the Keeper, Mr. Ernest Crofts, Mr. David Murray, Mr. John M. Swan, Mr. Ouless, Mr. Sargent and Sir W. B. Richmond.

The Council of the Royal Manchester Institution last week made the awards in the Heywood prize competitions in the Municipal School of Art for the sessions 1903-4 and 1904-5. For 1903-4 three sets of drawings were submitted, the subject being "The Decoration of a Ceiling to a Public Library." One prize of 10*l.* 10*s.* was awarded to Mr. Daly. For 1904-5 numerous sets of drawings and designs were submitted for "A Design for an Entrance-hall of a Large Secondary School." Prizes were awarded to Mr. R. Wallwork for a decorative scheme (10*l.* 10*s.*) and to Mr. J. Bluhm for an architectural scheme (10*l.* 10*s.*). It was reported that Miss Jessie Dawe, who recently gained the travelling studentship of 50 guineas offered by the Council, had begun her studies in Paris.

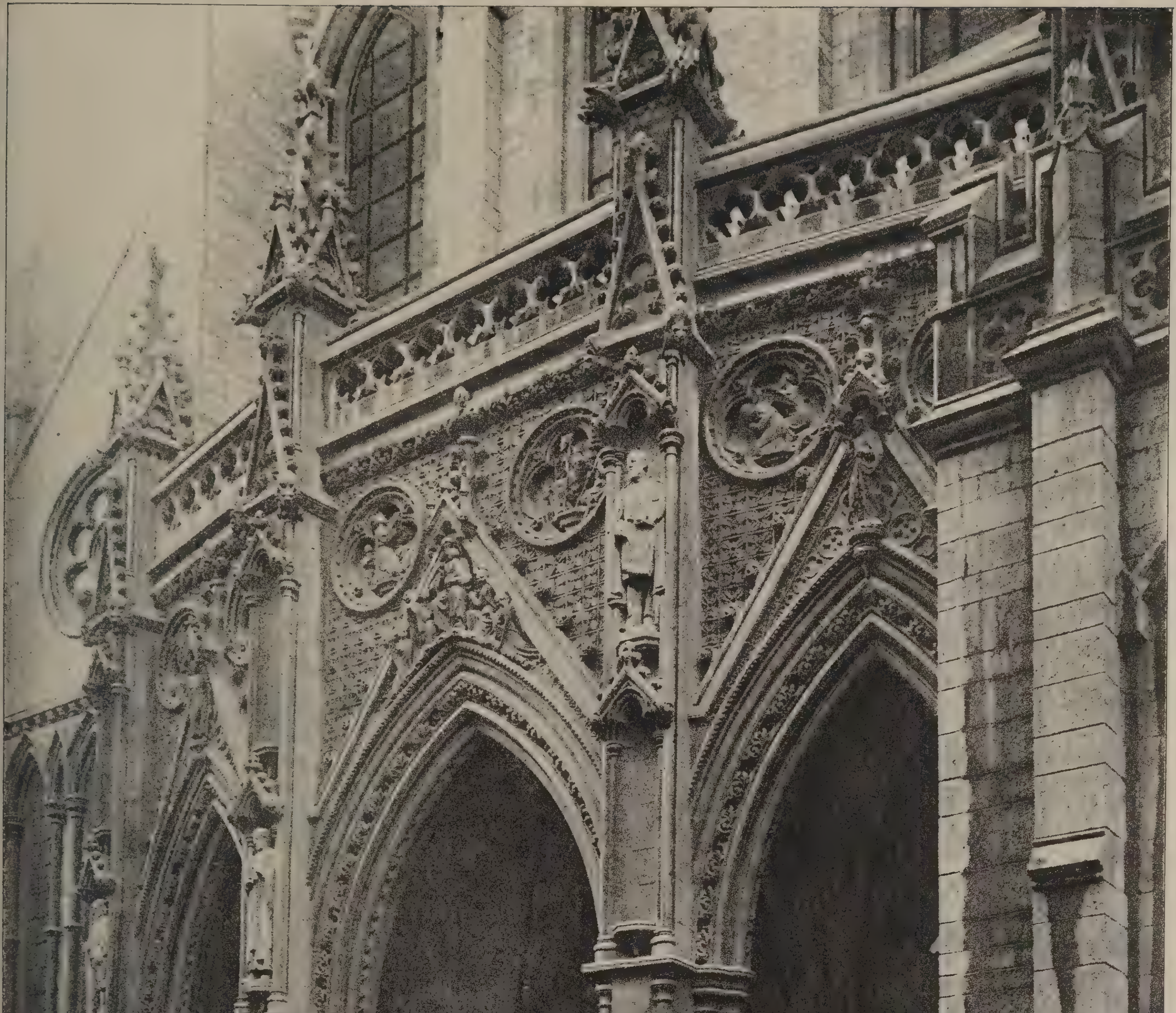
The Liverpool Architectural Society will hold their annual general meeting on the 11th inst. The Council have nominated Mr. Edmund Kirby as president; Mr. E. P. Hinde and Mr. A. Thornely as vice-presidents, and Mr. G. W. Fraser and Mr. E. C. Aldridge as honorary secretaries.

The Aberdeen Architectural Association held their first annual meeting on the 31st ult. Mr. G. J. Irvine, who was re-elected president, afterwards held a social gathering. There was on view a collection of architectural drawings lent for the occasion,

Mr. W. St. John Hope states that he believes that King John's treasure, which is believed to have included the Crown jewels, lost nearly 700 years ago, lies near Sutton Bridge, Lincolnshire. To help him in forming a correct idea Mr. Hope has worked out the tides right back to the day on which the occurrence took place, and also traced every step of King John. He suggests that shafts might be sunk to find the treasure.

The London County Council offer annually two prizes of the value of 15*l.* each, two of 10*l.* each and two of 5*l.* each for carefully executed drawings of buildings, churches, and of artistic objects in museums. They have received the report of the judges on the last competition, and are of opinion that the works submitted are not of a sufficiently high standard to justify the award of the two prizes of 15*l.* The four other prizes have been won by lady students at the Camden School of Art and the Camberwell School of Arts and Crafts.

A Paper, entitled "Technical Education in Architecture and the Building Trades," will be read by Mr. H. Davies, head of the Architectural and Building Trades Department, Northern Polytechnic, before the building section of the Association of Teachers in Technical Institutes on the 7th inst., at the Regent Street Polytechnic, W.C. All teachers of building and architectural subjects are invited.



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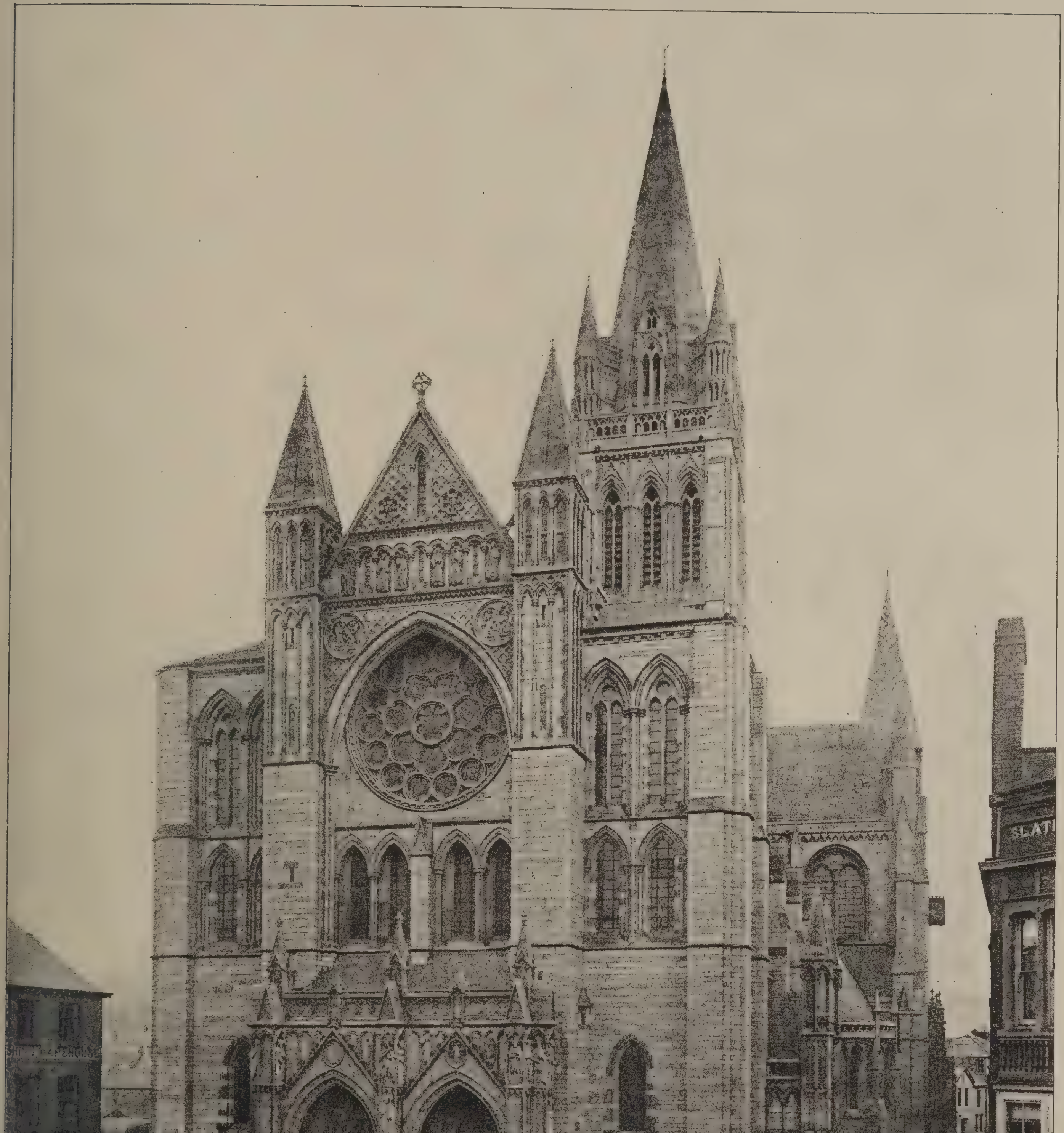
CATHEDRAL SERIES, No. 557.—TRURO: SOUTH PORCH.

The late J. L. PEARSON, R.A., Architect.



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CATHEDRAL SERIES, No. 556.—TRURO: WEST FRONT.

The late J. L. PEARSON, R.A., Architect.

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A REALISATION OF BACON'S IDEAL

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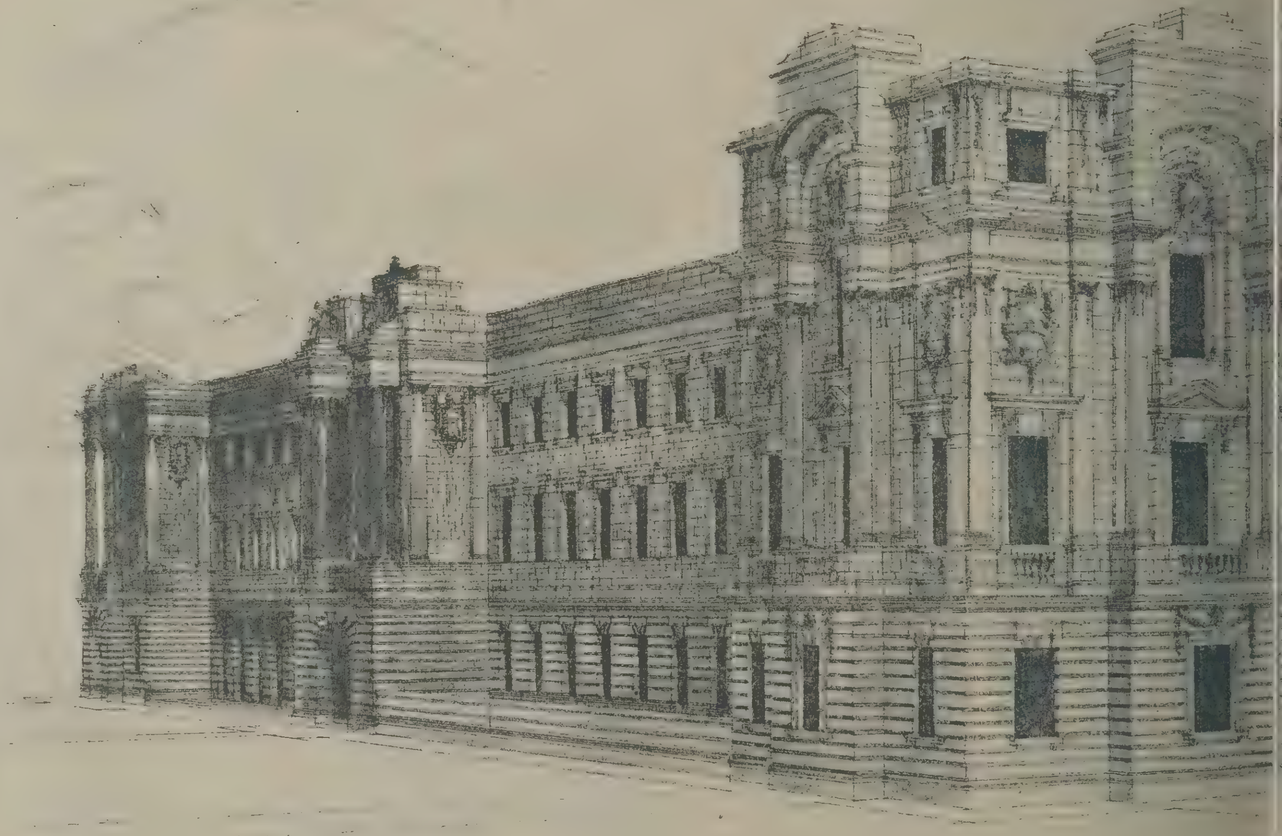
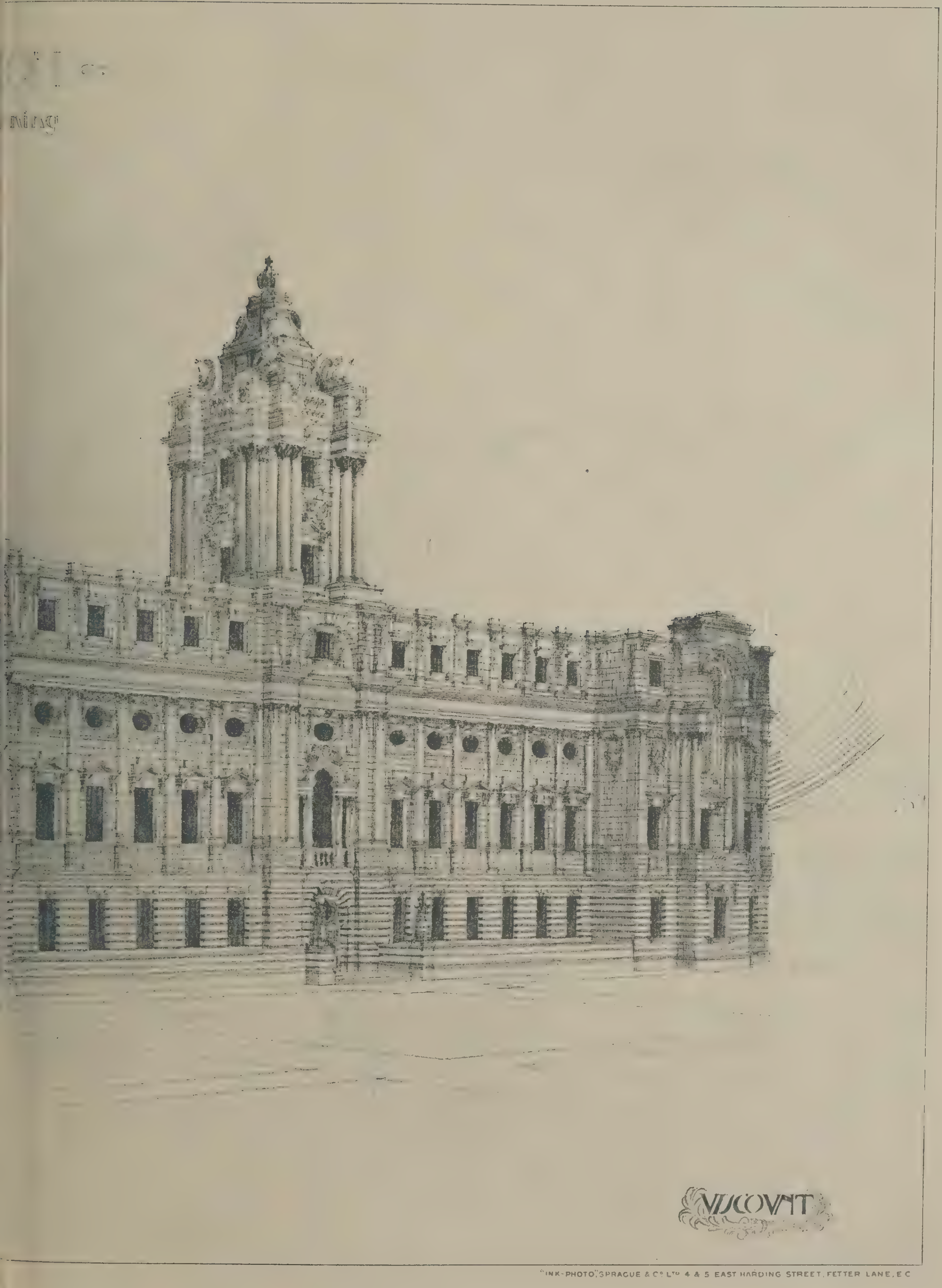


VIEW OF SOUTH-WEST AND SOUTH-EAST FRONTS ~



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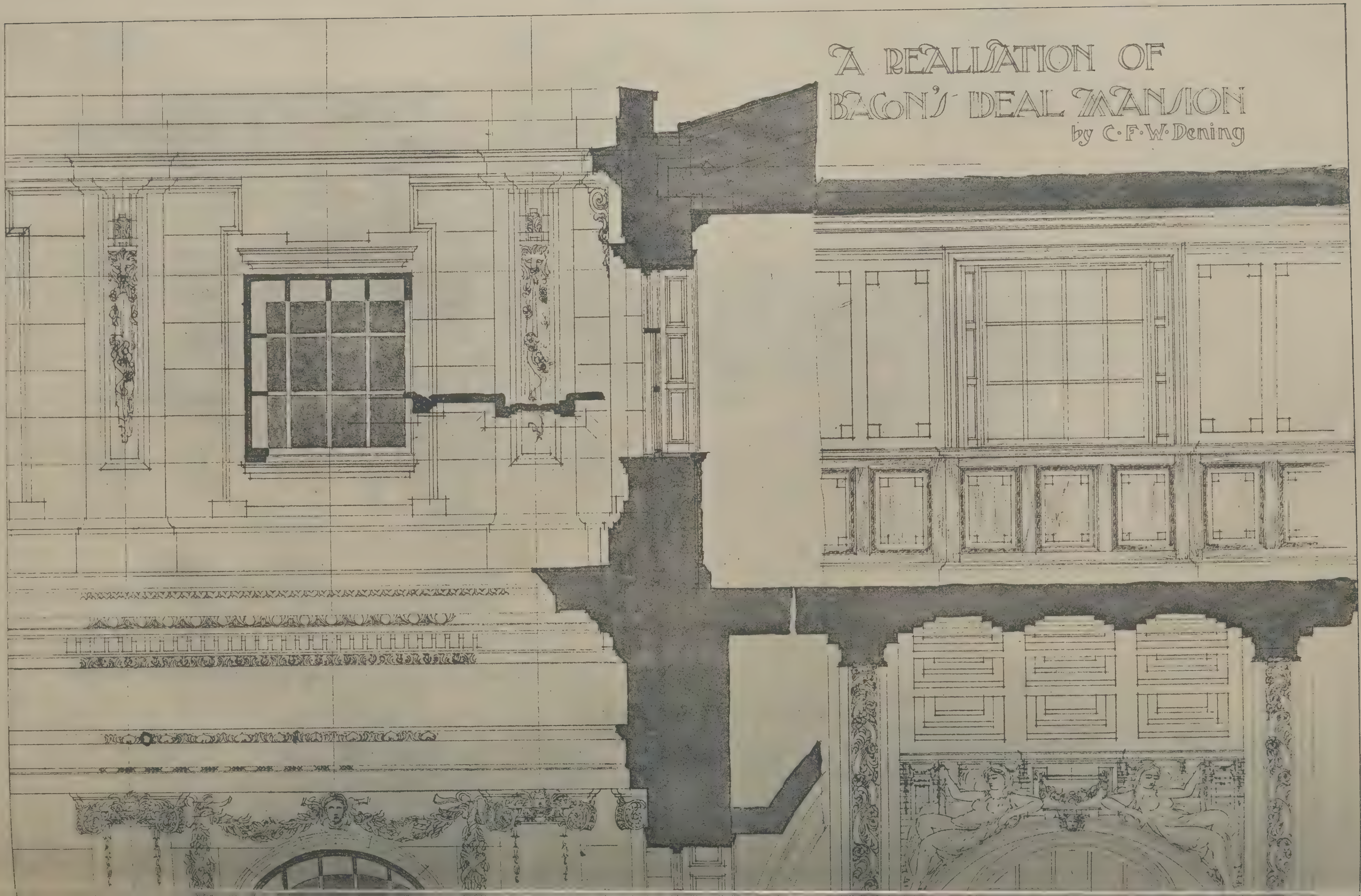
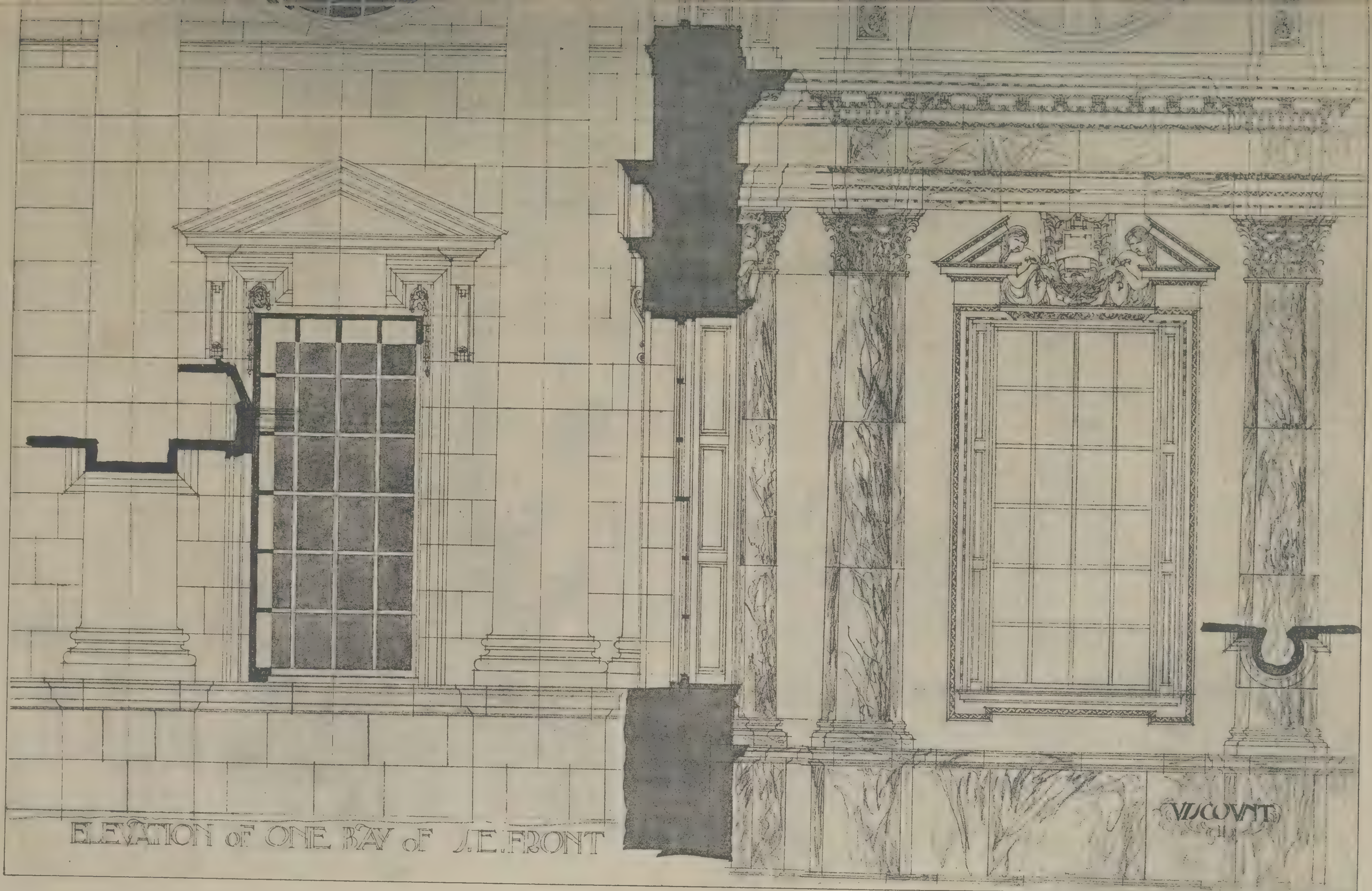


A REALISATION OF BACON'S IDEAL MANSION by C·F·W·Dening


ELEVATION OF ONE BAY OF S.E. FRONT

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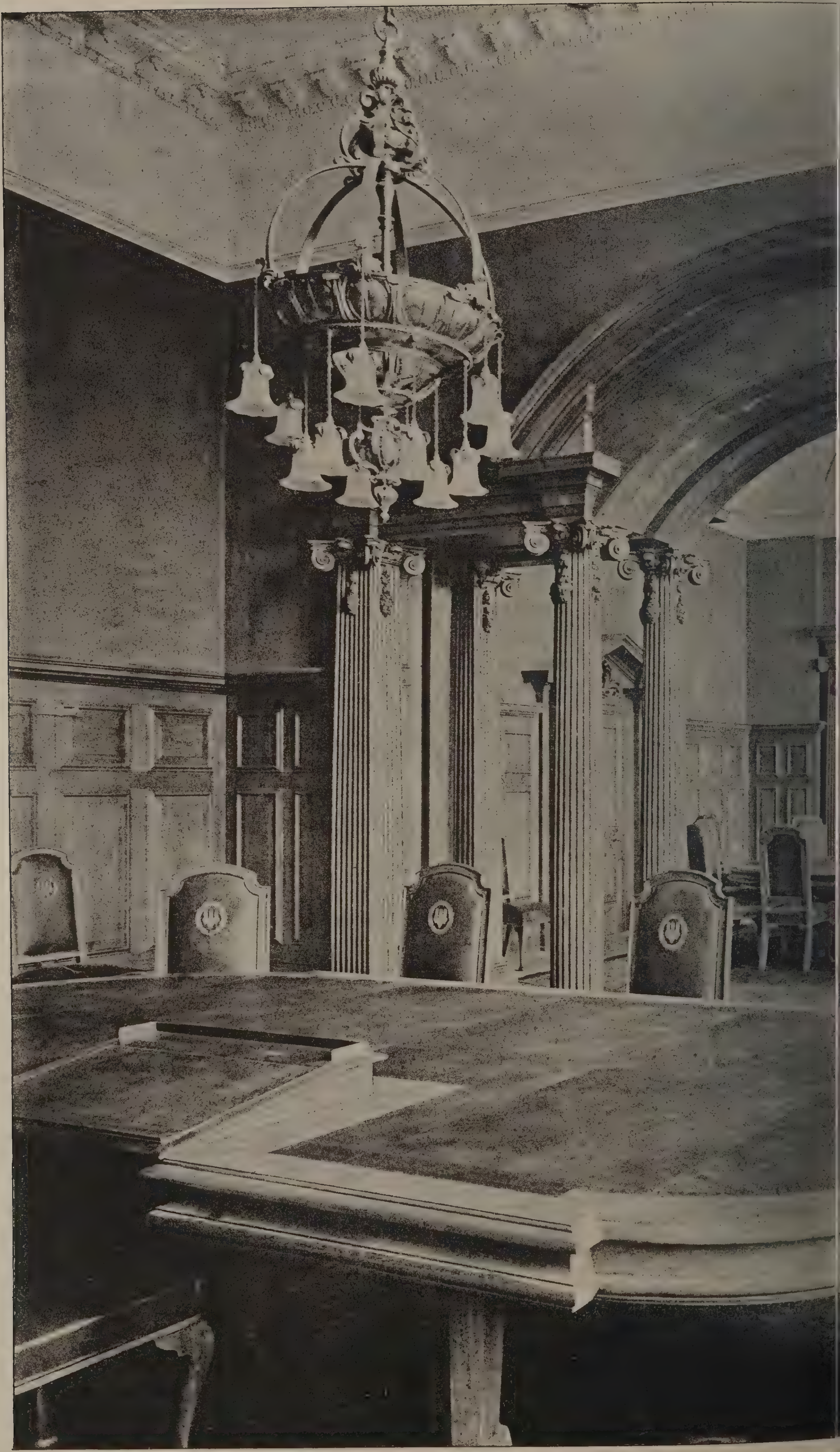
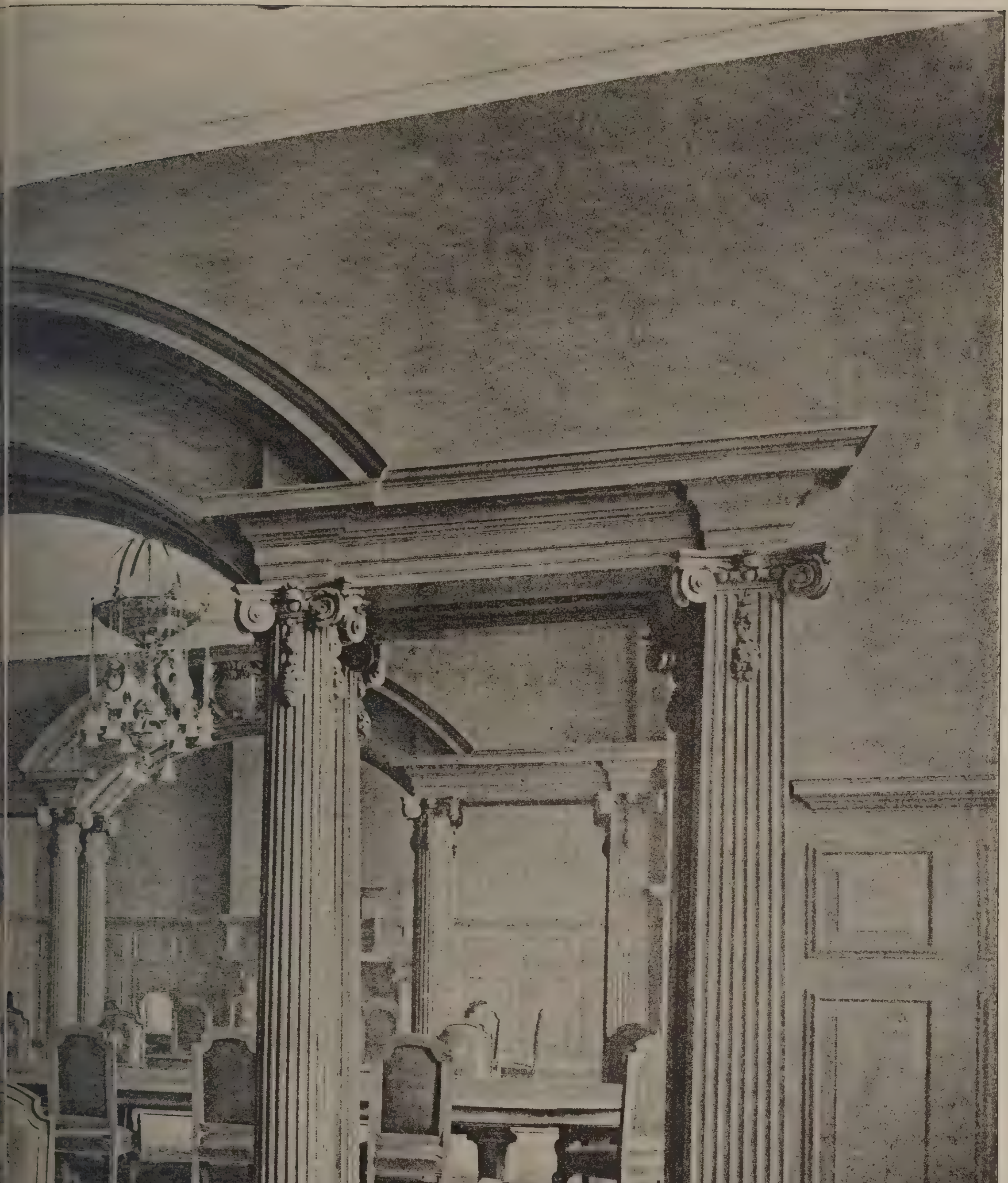


Woolwich Town Hall: Int

A. BRUMWELL



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chitect.

The Architect.

THE WEEK.

MONDAY last was the centenary of the birth of ISAMBARD KINGDOM BRUNEL, who was undoubtedly one of the greatest engineers of the nineteenth century. He was born in Portsmouth, where his father was engaged in the carrying out the block machinery at the dockyard. As the son of a Frenchman, he spent from his fourteenth to his sixteenth year in Paris. In his seventeenth year he became assistant to his father, who was preparing preliminary plans for the construction of the Thames Tunnel. During the progress of the works he was resident engineer. His first work on his own account was the preparation of plans for a suspension bridge at Clifton. They were never realised, but the Hungerford Suspension Bridge, which he designed in 1842, was afterwards transferred to Clifton. When railway construction occupied more attention than any other kind of speculation, BRUNEL was fortunate in obtaining the appointment of chief engineer to the Great Western Railway Company. He adopted the broad gauge of 7 feet. There could be no question of the advantages it offered to travellers; but it was expensive, and in order to put an end to the isolation of their system the Great Western Company were compelled to adopt the narrow gauge. BRUNEL had a love of largeness in all things, and his *Great Western* steamship surpassed in size and power any vessel which was then afloat. His *Great Britain* steamer was still larger, and his *Great Eastern* exceeded both in its dimensions. It was in connection with the launching of the last that he was struck down by paralysis, from which he never recovered. He took recreation in kite flying, and one of his greatest pleasures was to lie on his back on his own property with a large cigar in his mouth watching the motion of a giant kite in the air. He also found pleasure in watching the growth of his tea plant. But he was always ready to employ his genius for the benefit of his country. This was shown by his zeal during the war with Russia in 1854-5.

AN appeal has been made by the Society of Antiquaries to ecclesiastical authorities respecting the preservation of church plate. What is sought is to prevent the sale of plate which might be considered of no practical use, such as:—(1) Pieces of plate or other articles of a domestic character, not especially made, nor perhaps particularly well fitted, for the service of the church; (2) chalices, patens, flagons, or plate generally, made especially for ecclesiastical use, but now, for reasons of change of fashion, or from the articles themselves being worn out, no longer desired to be used. One instance of the risks which threaten ancient plate may be cited:—A church in Knightsbridge, lately removed, had among its plate a communion cup presented by Archbishop LAUD. The new church built on another site is deemed to need some addition, and it is proposed to sell the communion cup to help in defraying the cost. A London dealer has offered 500 guineas for the cup, which itself presents no unusual eatures, and the high value is of course due to its historical associations alone. No public museum n this country is in a position to lay out so large a um on such a purchase; the cup, therefore, will pass nto private hands, not improbably out of England. It s pointed out that the property really belongs to the arishioners, and that the vicars and churchwardens are nly temporarily in charge of it. Sales cannot take ace unless there is a faculty in each case. And rtunately some Chancellors are opposed to parting ith church property in any form. An excellent example as been set by the vicar and churchwardens of North imms, Herts, who have deposited in the British useum an interesting but fragile amber tankard elonging to the church.

THE late Sir WYKE BAYLISS, who died suddenly on the 5th inst., in his seventy-first year, if not a great painter, deserves grateful remembrance from architects for the persistent zeal with which he represented buildings, and especially those of a Gothic type. His father was an engineer who afterwards devoted himself to teaching military and geometrical drawing. It was therefore to be expected that young BAYLISS should at an early age have become acquainted with the production of geometrical representations, which some authorities consider to be the basis of the Fine Arts. He studied in the classes of Applied Art in Somerset House and Marlborough House, and afterwards became a student of the Royal Academy. He had also a short experience in an architect's office. He exhibited a view of "La Sainte Chapelle" at the Royal Academy in 1865, and two views of Trèves and Strasburg in 1879; but the majority of his works were seen at the exhibitions of the Royal Society of British Artists, which he joined in 1865. In 1888 he was elected president, and he seemed to be better adapted for the office than the mercurial WHISTLER, who held the position for a year. He was a writer as well as a painter, and among his books were "The Witness of Art," "The Higher Life in Art," "The Likeness of Christ Rex Regum," "The Enchanted Island" and "Five Great Painters of the Victorian Era." They were somewhat mystical; but what else was to be expected from a man who spent so much of his time in churches? Like DAVID ROBERTS, he was always glad to suggest the performance of ecclesiastical functions in his buildings; and he often succeeded in representing rich vestments, coloured light and clouds of incense. As well as we can remember, he never attempted the representation of buildings which were not connected with Christianity.

IT is satisfactory to learn that the works of reparation at Winchester will not require an outlay of 100,000*l*. as was reported. According to the Dean 30,000*l*. will be adequate to meet all expenses. It is believed, however, that the whole of the east end will have to be taken down, when the stones will be numbered and replaced. The difficulty with the foundations is caused by a bed of peat which lies over the gravel. If the material alone had to be removed the task would not be extraordinarily onerous. But inasmuch as the water continues to rise through the gravel the difficulties are magnified. It is believed that divers will be able to remove the peat, and then a bed of cement will be laid upon the gravel. When the underpinning is completed the building will be more stable than it was in Norman days, for it will stand for the first time on a solid foundation. All danger to visitors has been removed by the extent of scaffolding and shoring, and it is fortunate that the energetic measures have insured the stability of the cathedral.

THE French publication, *L'Art*, has since 1901 adopted the practice of presenting admirable engravings and etchings as supplementary to those which appear in each number of the journal. Some English works have been comprised among them, such as STANFIELD'S "Tilbury Fort," REYNOLDS'S "Lavinia Bingham," and LAVERY'S "Lawn-Tennis Party." But all subscribers to the excellent periodical may not have space available to hang those plates (some of which are large) or portfolios to contain them. It has therefore been arranged to issue *L'Art* under two conditions. The subscription for the monthly publication will henceforth be 25 francs in France and within the Postal Union, while for the numbers and the six additional plates the charge will be 50 francs. It is only necessary to glance at a single number in order to realise the value of *L'Art*, both for artists and lovers of art. Messrs. HACHETTE & Co. are the London agents.

POUSSIN v. LEMERCIER.

Towards the end of 1642 a picture was produced in Paris which caused some commotion among artists. The title, in an abridged form, was *Time Delivering Truth from the Yoke of Hate and Envy.* In reality it was an act of vengeance on the part of Nicolas Poussin, the great painter, against Jacques Lemercier, who was at the time no less prominent as an architect. The picture still exists, and Barry considered it and the *Calumny* by Apelles, described by Lucian, as the only legitimate examples of allegory in painting.

A barren plain was shown by Poussin on which was erected a wretched barn or grange. It was supposed to be a sample of Lemercier's architectural work, and he was represented as the Queen of Stupidity, smiling with satisfaction and having for throne the back of the Flemish painter, Jacques Fouquières. One arm was around the neck of the long-eared artist, and beneath her feet were symbols of the arts. Fouquières appeared to be proud of his subjection, and he was adorned with a gold chain and a medal, on which his initials were engraved. Near the pair was a winged figure engaged in tearing architectural designs, including one by Poussin. Hercules, in the form of Poussin, was seen entering; his eyes were supposed to emit flashes of lightning, in his hands were thunderbolts. Looking on was Envy, that is to say, Simon Vouet the painter, who, realising the danger of his friends, attacked Hercules, tearing his cheek and lacerating his arm. Simon was more terrible than Medusa, and if it were not for a pair of protecting deities who were portraits of M. des Noyers, a minister of State, and M. de Chantelou, of the Department of Buildings, Poussin-Hercules would have a bad time during the encounter. They crown him with a great wreath of laurels, which for an artist's inward bruises is better than parmaceti.

Poussin at the time was nearly fifty years of age, and he was supposed to be foremost as "the painter of reason." But, with all his reason and stoicism, he could not be patient under what he imagined to be a wrong. He had prepared forty designs for a series of paintings in grisaille representing the *Labours of Hercules*, which were to be painted on the plaster walls of a gallery which Henri IV. had constructed and which was to unite the Louvre with the Tuileries. When he arrived in Paris from Rome he found that Lemercier, the architect, had arranged panelling to accommodate ninety-six views of French landscapes by Fouquières. Poussin was "premier peintre du roi," and as such had the first claim to the commission. His rights could not be denied. He prepared a plan for alterations in the gallery, and, as was to be expected, the landscapes by the Flemish artist had to succumb to the *Labours of Hercules.* That was interfering with Lemercier as well as with Fouquières.

The architect was not obliged to receive direction from a painter, however eminent. He held the appointment of "architecte du roi" from 1618, and in 1642 he had had the experience of a quarter of a century in the office. Painters and sculptors had worked under him. In 1624 he was entrusted with the continuation of Pierre Lescot's work at the Louvre, and was scrupulously loyal to his predecessor's plans. This was no easy task, for Richelieu insisted on having a royal palace which should contain at least four times the area of the buildings proposed by Lescot. Lemercier had also, prior to 1642, designed for the great cardinal the palace now known as the Palais-Royal. The college of the Sorbonne, which was demolished a few years ago, was one of his works, as well as the church, which fortunately still exists and in which Richelieu was buried. At a later time he designed the church of St. Roch. He was recognised as the greatest architect of his time. He also gained the reputation of being considerate towards the artists and workmen who co-operated with him. Although he carried out so many noble buildings, Lemercier was a poor man when he died, for his most valuable property was his library, which was sold for 10,000 crowns. Poussin, like painters in general, has found more champions among writers than the architect. But from the evidence which has survived there are no grounds to warrant the belief that Lemercier in any way exceeded his authority or was unfair towards the painter. There was mismanagement in giving a commission both to Fouquières and to Poussin, but the architect was not responsible for the blunder. When the circumstances of the time are considered and the number of officials who contrived to hold on to the Louvre, the wonder is that many more painters were not ordered to decorate the gallery.

The stand made by the French painters on behalf of Fouquières also suggests which side was in the right. He was a Fleming, and the class of work he produced was only rarely employed in wall decoration. Now Simon Vouet, who led the opposition to Poussin's alteration of the gallery, was the principal representative of native art in France. There was much of the old craftsman in him, and if a patron wanted a painting or a score of paintings in the Italian manner, he would promptly execute the order like any *imagier* in Paris. He had painted a portrait of the Grand Turk in Constantinople, and he worked so long in Rome that he was able to have himself entitled a prince, but he never aspired to rivalry with the great Italians. For all we know he may have considered, like Mr. Ruskin, that Poussin, in spite of the supposed classicism of his paintings, possessed peculiarities which were weaknesses "induced in a highly intellectual and inventive mind by being fed on medals, books and bassi-relievi instead of nature, and by want of any deep sensibility." It is allowable for an artist to exercise criticism on another artist's works and method. Men like Poussin, however, esteem themselves as exempted from whatever is applicable to ordinary men, and Simon Vouet's efforts to insure fair play were interpreted as envy of the lowest kind. What made the opposition appear more base to Poussin was its success. His patron M. des Noyers, the minister, suggested to the painter the wisdom of returning to Rome.

The long epistle which Poussin wrote to Des Noyer gives his version of the affair. He commences by expressing the desire that one could see what was passin in the minds of men, for it was very difficult otherwis to judge of the capacity of those who practised th sciences and arts. Annibal Carracci and Domenichin were made to suffer from envious rivals, and Poussi classed himself with them in their misfortunes. H then complains that Des Noyers, who should hav been his protector and who gave him the occasion be calumniated, should listen to the lies of enemie Some were hopeful of gain, others hoped to obta pictures by Poussin, all who condemned the works commenced in the gallery were ignorant or malicious. Th failed to observe how he had avoided the defects a monstrosities which were found in the work of t "Mercier," and the disagreeable heaviness, coldnes melancholy dryness of the landscapes. Those on the ce ing suggested its collapse. The architect found hims controlled by the consoles, which were along the corni and which were not uniform in number on the two sid The division of space was therefore irregular. It shou be known there was a difference between aspect a prospect, the latter being an office of the reason a depending on the eye, the visual ray and the dista of the eye from the object. The prospect in the gall was unsatisfactory. Poussin said if he had known conditions of the place and were consulted he would have recommended that the work should be undertak The men who could assist were few in number; it wo necessarily occupy a long period and the cost would excessive. After all the outlay the gallery would be no more than a passage. In conclusion, Pous maintained he had served the king by producing a se which was more agreeable and beautiful, better dis buted, more varied and less expensive than the la scapes, but he was willing to cede his position to those who were more capable, but who were hitherto unknown. The old artists were not shy in relating their own merits, and Poussin was not an exception.

Poussin returned to Rome, and there remained until his death in 1675. Des Noyers having again accepted office wished to have the painter in Paris, but he declined. His experience was not favourable to the depending on the favour of courtiers. It is considered by some critics that his most successful works were produced after his abandonment of France. Poussin's reputation did not suffer by the gallery incident, nor were all architects inimical to him because he opposed Lemercier. Le Notre, among others, obtained orders for pictures by Poussin. Englishmen were also among his patrons. When Victor Cousin left his metaphysics for a short holiday in England he was amazed at the number of Poussin's works which he found. He had in lectures spoken of the *Seven Sacraments*, but he was pained to discover afterwards that France had only engravings of them of the kind he used, and to see the originals one must go to England. He therefore rebuked the French Government which allowed works to cross the channel which should have been retained at any cost as productions of the philosopher of painting, the Racine of Art, and which were collected with a religious care by Richelieu and Mazarin.

It is possible to explain the difference between Poussin and Lemercier on less sordid grounds than the apprehension of a loss by the painter. By the old system of the Renaissance the competence of painters, sculptors and goldsmiths to construct buildings was assumed. When we find a young man like Raphael entrusted with the great work at St. Peter's we can realise to what lengths credulity was carried. The architects were also supposed to be able to paint and carve, but somehow fewer opportunities were allowed to them. In France a different system came into operation. The office of the architect was defined. Yet it is easy to understand that a painter who had ived in Rome, and who was highly esteemed, like Poussin, would ignore the change, and would imagine hat he was to have as free a hand in the gallery of the Louvre as was allowed to Michel Angelo in the Papal hapel. The affair was therefore as much a contest etween two systems of decorating a building as between painter and an architect.

The grand gallery was not worth a dispute. Henri IV., we believe, had it constructed as an aid to s own security, for he anticipated assassination, and as desirous to have a covered way along which he ould fly in safety from one palace to another. It had length of 1,332 French feet and a width of 36 feet. was thus more than a quarter of a mile in length, and there was no need for decoration the building was ft for over thirty years with plain walls. When Emercier was ordered to complete the gallery, he ught after a kind of decoration which would be adapted t large compartments. Landscapes boldly painted ad divided by massive framing or borders did not seem to be out of place. Poussin was able to have a trial made of his figure pieces, but as well as can be made o: he soon grew tired of the undertaking. Fouquières ho was unable to complete his landscapes. The llery was not much used, and afterwards a series of ans in relief of the fortified cities of France were ced in it. After some years the reliefs were removed. Louis XIV. did not care for the Louvre, and h roof of the grand gallery was in such a state that h series of big battlepieces representing the victories of xander the Great which had been deposited there ffered from the rain. At the beginning of the eigh- eenth century it was proposed to turn the gallery into brary. But it proved to be too narrow for the large okcases and tables required for the examination of ls. When the Infanta of Spain came to Paris in 7 the gallery was converted into quarters for her attendants. At a subsequent date it was again used for models of fortified places. Before the Revolution it was proposed to be utilised for a museum. Under Napoleon the project was carried out on a larger scale. The gallery was altered under the direction of Percier and Fontaine, and now it is difficult to realise its original appearance. Like most of the other parts of the old Louvre it has a history, some of the incidents of which we have endeavoured to relate.

THE TRADES UNIONS AND TRADE DISPUTES BILLS.

By W. S. Holdsworth, D.C.L.

The report of the recent Commission on trade disputes, which we have discussed in *The Architect* (March 30, April 6), suggested various amendments in the law relating to trades unions and trade disputes. It was to be expected, therefore, that some new legislation upon the subject would be introduced. The Bill which was originally supported by the present Government substantially followed the recommendations of the majority of that Commission. It proposed to do for the law of conspiracy, regarded as a civil wrong, what was done for the law of conspiracy regarded as a criminal offence by the Conspiracy and Protection of Property Act, 1875, by enacting that an act, if done by a combination of two or more persons in furtherance of a trade dispute, should not be actionable, unless the act, if done by one person, would have amounted to a tort. It legalised peaceful picketing. It legalised acts which interfered with the trade, business or employment of another, or with a man's right to dispose of his labour or his capital as he pleased, if such acts were done in contemplation or furtherance of a trade dispute. It provided that trade union funds should not be liable for wrongful acts committed by the agents of the trade union, unless the act was committed by the committee of the union, or by some person acting under their authority; and it was provided that a person should not be deemed to have acted under the authority of the committee if the act was expressly prohibited by the committee or expressly repudiated by it as soon as such act was brought to its knowledge. This Bill, therefore, followed out the recommendations of the majority of the Commission in so far that it maintained the authority of the Taff Vale decision. As we have said, these recommendations, and therefore the Bill founded upon them, were too favourable to the trade unions, if regard is paid to the evidence offered to the Commission and to the principles recognised by the Commissioners as the basis of their recommendations.

But the Labour party were not satisfied even with these proposals. They held aloof from the Commission —conscious, perhaps, that their aims and desires would not bear the light of a judicial analysis; and it is common knowledge that the present Government have capitulated to their demands. The Bill supported by them, which presumably the Government will now apply its majority to carry, differs from the Bill originally proposed by the Government in the fact that it reverses the Taff Vale decision. One clause of the Bill provides that "an action shall not be brought against a trade union . . . for the recovery of damage sustained by any person or persons by reason of the action of a member or members of such trade union;" and this proposal is sanctioned by the Government in the face of the finding of the Commission, that if trade union funds were thus exempted from the law, trade unions would be the only associations exempt from liability for wrongs committed or authorised by them; and that if the existing law did not recognise such liability, it ought to be changed so that such liability should be recognised.

When proposals are made in a Bill which is sanctioned by the Government, opinions may differ as to their expediency; but it is generally possible to find some reasonable grounds for bringing them forward, if the matter is looked at from the point of view of the proposer. We have tried from all points of view to find some reasonable grounds for the proposals made by this Bill to reverse the Taff Vale decision; but we have been unable to discover any motive other than the desire which is common to all, including the child and the savage, to be at liberty to have one's own way, regardless alike of expediency and justice. Those who make these proposals are loud in their protestations that they desire only equal justice for all, and that they wish for no preferential treatment; but while making these protestations they are engaged in bringing in a Bill which will place trade unions in a position of freedom from the law which no other individual or association enjoys. The only attempt we have seen to justify such proposals is the use of the supposed analogy between the organisation of the learned professions and the organisations of the workmen in their trade unions. The members of the learned professions, it is said, have a monopoly of the exercise of their particular profession —why should not the trade union have a monopoly of the labour market? The answer to this is that there is no analogy whatever between the objects of the organisation of the learned professions and the objects of the organisation of a trade union. The organisation of the learned professions is established with a view to protect the public by requiring from the candidate for membership some evidence of fitness, and by maintaining rules of professional honour which shall conduce to the honest exercise of the profession. The organisation of the trade union is established not with a view to benefiting the public by making the workman a competent workman, but with a view simply of getting for him as large a wage as the employer can pay. Their objects are to benefit their members, not to benefit the public. No one who thinks for a minute can fail to see the fallacy of such an analogy; and yet this analogy is constantly put forward by the trade unionists as a justification of their extreme demands.

The very strength of the case against the proposals of this Bill causes a thinking person some embarrassment in dealing with it. He seems to himself to be constantly talking truisms. He has constantly to remind himself that arguments directed against paradoxes sanctioned by a responsible Government, truisms though they be, require to be stated. We said, in commenting on the proposals made by the Commission on trade disputes, that to exempt trade unions from liability for tortuous acts committed or authorised by them would be a serious handicap upon the industry of the country. It clearly tends to take from employers that control over their own business which is essential to the profitable carrying on of those businesses. If this clause becomes law, we do not doubt that we shall find that, whenever possible, employers will remove their businesses and carry them on in countries where such restrictions are unknown, and if this course is taken we may expect to see the problem of the unemployed assume far larger dimensions than it has ever assumed before. When this course is not possible we cannot but expect to see a period of industrial war. The trade unions decline to be bound by the law because they consider that it oppresses them. They therefore seek to emancipate themselves from it. Can we expect that employers of labour when deprived of legal redress will not in self-defence unite to protect themselves in any manner they are able? They will be extremely foolish if they do not unite with this object. The wide terms of these Bills legalise acts done by associations of employers if done in furtherance of a trade dispute, as well as acts done by associations of the employed.

The employers, if such a Bill is passed, cannot hope to get any assistance from the law. They must rely upon the freedom from the law which is given to them by these legislative innovations. The result will be that in the case of a trade dispute the law will, by the Act of the sovereign Legislature, lose much of its power to moderate such disputes. The parties, to borrow a phrase from international lawyers, will be like two sovereign states "in a state of nature" as regards one another. The consequences it will be easy to imagine. Strikes will be met by lock-outs. "Peaceful picketing" of the trade union will be met by "peaceful picketing" on the part of combinations of employers. In all probability the funds of the trade unions will be exhausted before the funds of the employers of labour. Acute distress, and all the evils which accompany acute distress, will accompany and follow this industrial war.

In the meantime the trade of the country may well be materially ruined. We cannot, indeed, expect that those whose aim is the immediate benefit of the labouring classes by the easy plan of yielding to their demands will take such remote consequences into consideration. They cannot be expected to foresee that the emancipation of trade unions from the law will unite the employers for the purpose of necessary self-defence. Nor do we press the point that our greatness as a nation may well depart with our trade. These are arguments which will, no doubt, be denounced as visionary by those whose mental horizon is limited by the desire to attain a greater measure of bodily comfort, not by the hard road of increasing their wage-earning capacity, but by the easy road of coercing their employers without fear of legal consequences. We should remember, however, that things which seem visionary to the short-sighted are seen clearly enough by those whose powers of sight are normal. Though we do not blame those who cannot see, we do blame those who see further and yet, to gain a passing advantage, give way to the demands of those whom they ought to guide. But we do press the point, which cannot be regarded as visionary except by the totally blind, that the proposals made by the Labour party may not have the results which that party expects. They hope that the labouring classes will be handed over tied and bound to the trade unions. They hope that their power to coerce the employer will be similarly increased. We may well doubt whether these hopes will be realised.

The effects of a change in the law directed to secure some one object cannot be strictly limited to the attainment of that object. The effects are felt all through the social and the industrial organisation of the State; and they may well call into existence wholly new conditions, different indeed from the old conditions before the change in the law was effected, but still more different from the conditions which the change in the law was expected to produce. As we have said, we do not think that the employers will tamely submit to the coercion which it is the object of this Bill to legalise. If this Bill passes they will find small help in the law, and they must, therefore, combine to protect themselves. It may well be that the successful resistance of the employers to the tyranny of the trade unions will mean a real charter of liberty for the working man.

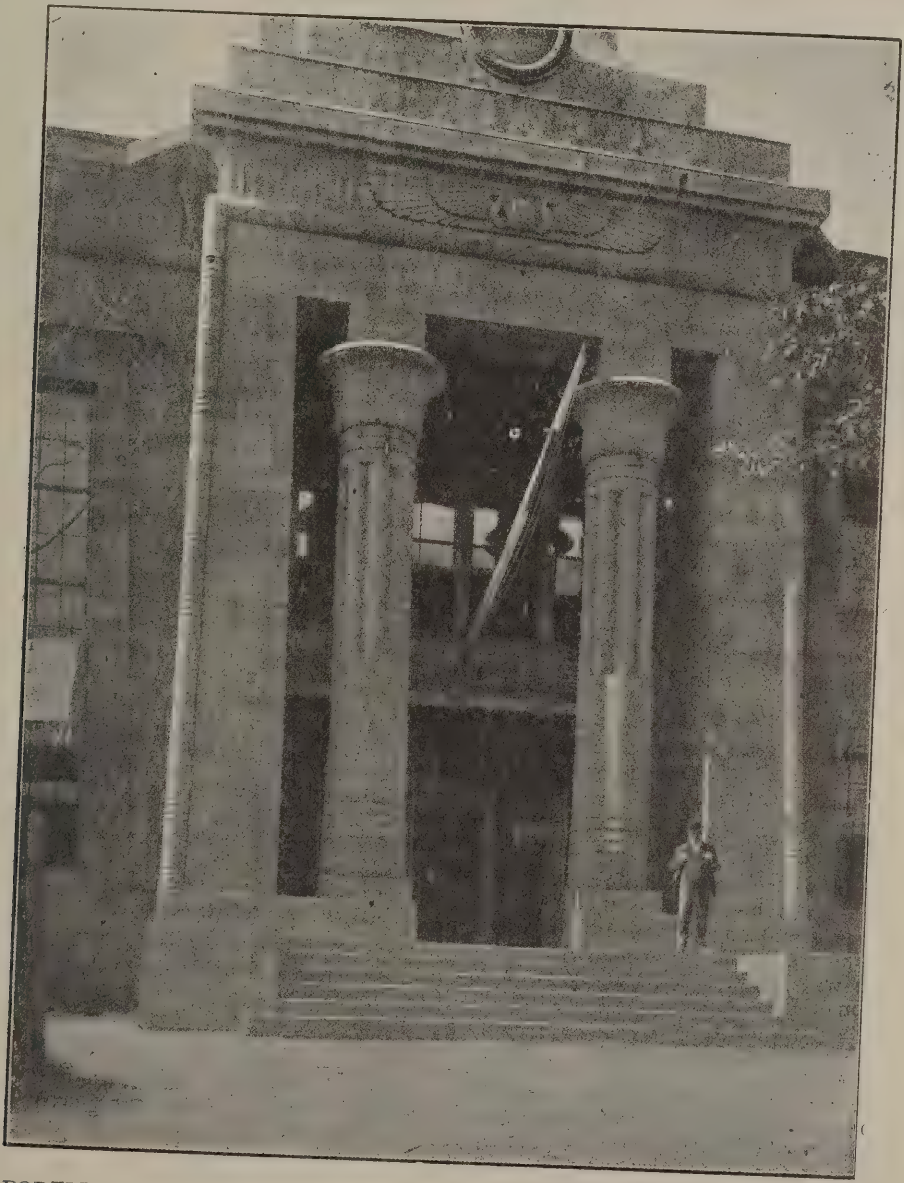
At a time when schemes of international arbitration are in the air, a civilised community deliberately proposes to set aside the law, and to submit the larg number of questions that arise in the course of th most important class of disputes of modern times— disputes between employers and employed—to the onl alternative to the arbitrament of the law, the arbitra ment of force. The very persons who shudder at th horrors of war do not shrink from weakening the con trol of the law courts over a class of disputes in whic by reason of the heated passions of the contestin parties, an impartial adjudication is peremptoril demanded. The desire to be universally benevolent b the easy mode of dispensing indiscriminate charity h before now led individuals into strange places. Th same desire is now performing the same office for th party which is animated by it, and that party is mast of the executive power in the State.

The Society of Ordained Surveyors at their annual meeti in Edinburgh elected Mr. John C. Hamilton as president.

AN AMERICAN COURTHOUSE.

THE views represent the old Essex County Courthouse, Newark, New Jersey. The *American Architect*, from which they are taken, says of the structure:—"We have been unable to discover the name of the architect of this interesting old building; but, considering that, as shown by the date of the corner-stone, August 23, 1836, it was built about the same time with the now vanished 'Tombs' Prison, of New York, the external evidence is that it was probably designed by John Haviland, who about that time affected the Egyptian styles. The old building, in red sandstone, is about to be torn down so as to uncover the façade of the new white marble courthouse by Mr. Cass Gilbert, of which the pediment can be faintly seen rising above the roof of the old building." Although Greek and Roman examples found most favour in the United States, it could not be said that Egyptian architecture was entirely neglected. At the Mount Auburn Cemetery, near Boston, an Egyptian gateway was erected, and most of the monuments were pyramids and obelisks or tombs upported by heavy Egyptian columns. There seemed o be such a probability that the style would be dopted for sepulchral architecture, a writer in the *North American Review* in 1836 took the trouble of warning his countrymen against imitating the Mount Auburn cemetery. He said:—"It is very doubtful whether the Egyptian style is most appropriate to a hristian burial-place. It certainly has no connection with our religion. In its characteristics it is anterior to civilisation, and therefore it is not beautiful in itself. No one will deny the superiority of the Grecian style in mere point of beauty. But more than this, Egyptian architecture reminds us of the religion which called it into being, the most degraded and revolting Paganism which ever existed. It is the architecture of embalmed cats and deified crocodiles: solid, stupendous and time-defying, we allow, but associated in our minds with all that is disgusting and absurd in superstition. Now there is certainly no place, not even the church itself, where it is more desirable that our religion should be present to the mind than the cemetery."

There was, we suppose, less objection to the adoption of the Egyptian style for the New York prison known as "The Tombs," which Charles Dickens described as a "dismal-fronted pile of bastard Egyptian, like an enchanter's palace in a melodrama." But that prison, which was supposed to be a great experiment in the treatment of criminals, has been superseded by a building which exemplifies modern construction. When we consider that the Egyptian style was used in the way we have mentioned, it was allowable for Americans some seventy years ago to assume that it had a special adaptation for courthouses. Although the Essex Courthouse is more impressive than the many which were erected about the same time in England, we believe no other experiments were tried. Yet amidst the chaos which then existed Egyptian models might have served as a restraining power. As the writer already quoted said:—"There may be no



PORTICO OF THE OLD ESSEX COUNTY COURTHOUSE, NEWARK, N.J.

THE OLD ESSEX COUNTY COURTHOUSE, NEWARK, N.J.

American literature, painting, sculpture, but there certainly is American architecture. We have columns which mock at the narrow limits of the Grecian orders; domes whose proportions are more stupendous, if not more vast, than the marvel of Angelo; ornaments which it would baffle the genius of Palladio to class; and 'shingle palaces' that rival pandemonium itself."

CULROSS ABBEY.

WHEREVER the pick and shovel are at work in and around Culross Abbey prehistoric discoveries are being made. To the south of the recently discovered crypts the tops of other arches are being revealed, which supports the theory that, with the natural slope of the hill, the ancient monastery had risen with colonnaded terraces arch over arch. An examination of the foundation of one of the main columns of the crypts gave us a clue, says the *Glasgow Herald*, to its demolition. The moulded octagonal base was simply set upon the clay, which, of course, is exceedingly hard, but not of sufficient resisting and sustaining power to carry the enormous weight for which it was intended; each column had two arched roofs to support beside its overhead column. That is one of the reasons why so few of the original column-supported arches are in existence in monastic buildings.

To the south of the new vestry, close to the south transept, where portions of two finely moulded projecting jambs spring from a dainty, towering, pyramidical base, were found two stone coffins. An inside garden wall had been taken down, and an old walk between that and the transept lowered to a depth of 4 feet for the purpose of conforming and incorporating it into the old garth or garden, and upon further excavating for a foundation of a new wall there a large stone coffin was found 2 feet below the new surface.

The head end of this coffin had been broken off, probably when the aforesaid wall was built. The stone was without a cover, and contained some remains. At its side and deeper in the ground a kistvaen of the earliest period was also found. A kistvaen is composed of natural flagstone set edgewise on the sides and ends, and covered over with one or more of the same. From the ninth century to the reign of Henry III. people of the higher classes were buried in stone coffins.

In excavating for the heating chamber in the south transept a very fine Celtic cross has been discovered. It is about 5 feet long and 14 inches broad on the face. Its characteristic ornamentation consists of interlaced and incised ropework arranged in regular fashion, reversing scrolls and ornamental panels on the centre of the shaft. At each side on the face there is a faint trace of what may have been a Celtic form of hieroglyphics.

REGISTRATION OF ARCHITECTS.

THE following is the report of the registration committee, dated March 20:—

To the Royal Institute of British Architects,—The committee have the honour to report that a sub-committee have held fifteen sittings and have heard the evidence and views of twenty-four architects from various parts of England, Ireland and Scotland,

As a result of their deliberations, the committee is impressed with the desire of many architects (especially those who are practising in the provinces) that a legal status should be given to duly qualified practitioners in architecture, and they are of opinion that this can be met by applying to Parliament for a legal diploma of membershi of the Royal Institute of British Architects, it being made compulsory that after (say) 1912 all architects, before receiving this diploma, must have passed through a definite course of architectural education in a recognised school.

The committee believe that in a short time, if this were done, the holding of such a diploma would prove to be o professional value to all practising architects.

It is generally admitted by the advocates of the presen draft Bill that the only chance of getting Parliamentar powers to carry out such a penalising proposal as the registration of the title of architect would be:—(1) By placin the registration in the hands of a board partly composed of members outside the Institute, though it is suggested tha the Institute should be largely represented upon it; an (2) by exempting from its operations all the members of th Institutions of Surveyors and Civil Engineers. It is als generally admitted that the standard for admission to such registration would have to be a low one.

The committee believe that unless the profession can approach Parliament with approximate unanimity there is little chance, in the present state of public business in the House of Commons, of getting any contentious measure passed.

The committee therefore recommend that at present the Institute should confine itself to attempting to obtain Parliamentary recognition for its membership, an attempt which they believe would meet with very general support. Such State recognition would encourage education and raise the qualifications of architects, and would at the same time avoid the temporary necessity of granting a statutory title to unqualified men.

The committee recommend that the title of the Institute be changed to that of the Royal College of Architects, and that a temporary third class of professional members be established.

As an appendix to this report the committee submit an outline of suggestions to give effect to the recommendations herein contained.

The committee beg leave to state that this report has been adopted by them unanimously at a meeting on March 20, 1906, at which the following members were present:—

Edwin T. Hall (vice-president), in the chair, R. S. Balfour, W. H. Atkin Berry, A. W. Brewill (Nottingham), J. J. Burnet (Glasgow), J. T. Cackett (Newcastle), W. D. Caröe, T. E. Collcutt, A. W. S. Cross, E. Guy Dawber, E. M. Gibbs (Sheffield), J. S. Gibson, W. J. Gilliland (Belfast), Alexander Graham (hon. secretary), E. A. Gruning, G. H. Oatley (Bristol), George Hubbard, H. V. Lanchester, A. N. Prentice, G. H. Fellowes-Prynne, John W. Simpson, John Slater, Leonard Stokes (vice-president), C. Harrison Townsend, Paul Waterhouse, Sir Aston Webb, Edmund Woodthorpe.

The President, whose absence through illness was deeply regretted, together with Mr. H. T. Hare, vice-president, and Mr. J. A. Gotch, who were unavoidably prevented from attending, have desired their names to be added to those appearing.

By order of the registration committee.

W. J. Locke, Secretary.

Appendix to the Report.

Heads of Scheme for Raising Qualification of Architects.

1. Revise the Charter, and
2. Submit a Bill to Parliament.

Charter Revision.

(*a*) Change name to Royal College of Architects, and the affixes F.R.I.B.A. and A.R.I.B.A. to F.R.C.A. and A.R.C.A.

(*b*) Substantive provision—In future Fellows to be elected (1) after 1906 from those who have passed the Associates' examination, or (2) by Council in special cases.

(*c*) To authorise the constitution of a scheme of education to be compulsory on all candidates coming up for examination after 1912.

(*d*) Create new subscribing class of temporary duration, without the power of voting, to be called Licentiates (L.R.C.A.), at a low fee, to admit bona-fide architects who are not eligible for F. or A.R.C.A. All members of allied or other societies of architects found eligible by the Council of the Royal College of Architects to be admitted as Licentiates without election. Admission to class to be closed within a year after the passing of the Act. All to sign declaration and obligation as to professional conduct.

(*e*) F., A. and L. to be defined as professional members.

(*f*) Disciplinary powers to be increased with power of appeal.

Bill to Parliament.

Declare it is in public interest that employers should be enabled to distinguish between architects recognised as qualified by a competent authority and those not so recognised.

Enact:—

(*a*) Following the precedent of the Law Society, the Royal College of Architects (already recognised by Parliament as authority for granting certificates required by district surveyors before they can receive appointments) be empowered and required by its Council to institute and supervise education and examination of architects for admission to the Royal College of Architects and to confer the titles F.R.C.A. and A.R.C.A. Confirming all such present titles.

(*b*) Give statutory force to present Charters.

(*c*) Legalise scale of charges, to be approved by Privy council, for all professional members of the Royal College of Architects.

(*d*) Municipalities and other public bodies acting in fiduciary position shall on the erection or alteration of buildings in cities or towns employ a professional member of the Royal College of Architects.

(N.B.—It is a question if clause (*d*) should be introduced, but it is likely to commend itself to Parliament, and it follows a policy long supported by the Council and by a large number of the members of the Institute. At the worst it could be struck out of the Bill.)

Memorandum to the Report of the Registration Committee.

In accordance with a resolution of the registration committee the President appointed in October last a sub-committee, consisting of the following:—Sir William Emerson, Sir Aston Webb, Messrs. J. Slater and T. E. Collcutt on the one side, and Messrs. J. S. Gibson, A. W. S. Cross, W. H. Seth-Smith and George Hubbard on the other side, with the President as chairman. Subsequently owing to Sir Wm. Emerson's absence in India Mr. E. T. Hall was nominated by the President to take his place, and the President's selection was subsequently confirmed by the registration committee.

At the first meeting of the sub-committee on October 25, 1905, the following procedure was agreed upon, viz. to summon twenty-four witnesses, comprising six metropolitan and six provincial architects in favour of registration, and a similar number of metropolitan and provincial architects holding the opposite view, the witnesses to be summoned to give their personal opinion on the question.

The first meeting for the examination of witnesses was held on November 22, and eleven subsequent meetings were held, when the following twenty-four gentlemen were good enough to attend and express their opinions before the committee. Those in favour were:—Messrs. W. Gillbee Scott, H. A. Saul, Lewis Solomon, Ellis Marsland (hon. secretary, Society of Architects), H. W. Wills, F. R. Farrow, H. L. Goddard (Leicester), S. Perkins Pick (Leicester), H. Smith (Bristol), W. J. Gilliland (Belfast), J. W. Beaumont (Manchester), John Keppie (Glasgow); and against them Messrs. J. Macvicar Anderson, Professor Beresford Pite, Reginald Blomfield, A.R.A., Basil Champneys, H. H. Statham, T. G. Jackson, R.A., C. Hadfield (Sheffield), Professor Capper (Manchester), J. J. Burnet (Glasgow), J. A. Gotch (Kettering), W. M. Fawcett (Cambridge) and Professor C. H. Reilly (Liverpool).

A shorthand writer was present throughout the proceedings to place the evidence on record.

The sub-committee then proceeded to consider its report to the registration committee. The general effect of the evidence may be briefly summed up as follows:—On the one hand, it was strongly felt by the witnesses in favour of registration that the standard of architectural ability would be raised by instituting compulsory training and examination; and also it was thought that in the interest alike of the public and the profession only those who had proved their competence by passing a qualifying examination should be legally entitled to call themselves architects.

On the other side there was an equally strong feeling that the measure proposed would have a tendency to lower the art of architecture, and that, as the test to be applied must in the opinion of many be a low one, there would inevitably be a tendency to register very poorly qualified men; and that, though examinations might fairly test a man's constructive knowledge, they could not fix a standard in art.

It seemed obvious that with these strongly conflicting views there would be the greatest possible difficulty in obtaining Parliamentary sanction to the measure proposed; and the sub-committee, after due deliberation, therefore unanimously agreed to the terms of a report, which was subsequently submitted to and approved at a well-attended meeting of the full registration committee held on the 20th ult. It was considered that, amongst the incidental advantages to be obtained by these proposals, and in addition to those mentioned in the sub-committee's report (*a*) it would insure legal recognition of the Institute's scale of charges; (*b*) it would enable the Institute to deal more effectually with cases of dishonourable professional practice; (*c*) and it would be likely to meet with the fairly unanimous support of the whole body of the Institute.

NOTES AND COMMENTS.

The works committee of the London County Council have pointed out various reductions which may be made in the plans for three schools which the education committee propose to have erected. In one school, viz. Lawn Lane, Kennington, the reductions amount to no less than 1,875*l*., and it may be interesting to have it stated in what they consist. They are in the report described as follows:—(1) Fittings to teachers and children's w.c.'s to be of a less costly nature; (2) board flooring rebated and secret nailed to the concrete to be substituted for wood-block flooring; (3) blue lias mortar to be used for brickwork and concrete except in the case of isolated piers, chimney-stacks and work below ground, and also in cases where the nature of the sites require foundations to be built in cement; (4) stocks to be specified as "good best" stocks and not as "picked"; (5) stone carving to be reduced and granolithic to be used for cills and copings (general architectural features) instead of stone; (6) drains underneath school buildings (if any) to be in iron, all other pipes outside building to be in stoneware; (7) yellow deal for framing and white deal for panels of cupboards instead of pine, and also less expensive wood throughout the school, with the exception of the roof timbers; (8) railings of a cheaper design; (9) cheapening cost of play-sheds and the substitution of iron columns for brick piers where possible; (10) plaster to be specified as "render" and "set" instead of "render, float and set;" plaster cornice to be omitted, and wood frieze moulding without cornice to be specified instead; (11) providing salt-glazed double-stretchers instead of partitions between water-closets; (12) omit N.A.P. fittings to windows and substitute running gear for window gearing; (13) eighth-inch galvanised iron cisterns in lieu of Alexander's pattern; (14) screws only to glazing beads in lieu of cups and screws. Similar modifications in each of two schools in Wandsworth will effect the substantial reduction of 1,390*l*. In other words, the suggestions will save 4,655*l*. The works committee are not renowned for economy, but, after this demonstration, what is to be thought of the system hitherto adopted by the education committee?

In "King John" Shakespeare suggests that the monarch died without knowing that he had lost his troops in an unexpected flood of the Lincoln Wash. According to Matthew Paris and some documents in the Rolls, John had passed over the Wash from the Cross Keys to Fossdike, but on looking back "beheld a long train of waggons and sumpter-horses, which carried his jewels, insignia and money, swallowed up in a whirlpool, caused by an influx of the tide and the current of the Welland." At a time when so much interest is taken in buried treasures it would be strange if those in the Wash were overlooked. Mr. St. John Hope has taken up the subject, and with his usual energy has been making various investigations. He has had the tides worked out back to the thirteenth century, and with the help of other data he has come to the conclusion that the scene of the disaster was at Sutton Bridge, between Cross Keys and Holbeach. The Welland stream has in the course of time become more narrowed, and he believes that the baggage carts have sunk to a lower strata. The Midland Railway Company have made borings about the spot, but have not come into contact with any treasures. At present there is silt for a depth of 23 feet, and in it Mr. St. John Hope believes King John's treasures are entombed. The probability of finding it is greater than in other ventures that have tempted capitalists.

The Dundee Town Council having directed Mr. Mackison, the burgh engineer, to perform work of the kind generally known as Parliamentary, he declined to do so on the ground that it was outside his ordinary duties. It is true Mr. Mackison for several years performed similar duties. But he claimed extra payment for them, and the subject will no doubt be investigated in the Law Courts as an action for fees. In dealing with so important a matter comment is not called for, as we may suppose the claim is now a subject of litigation. But it may be recorded that by a majority of one vote the Council has suspended Mr. Mackison for four months. It is supposed that the Council were entitled to ask the burgh engineer to perform certain work, and by declining it he rendered himself liable to dismissal or suspension. It is not likely Mr. Mackison at the end of the term will return to his duties in a contrite disposition. And for the ratepayers there will be the expense of paying an official during four months without receiving any return. If he had carried out the Parliamentary work it would be argued that he was only doing what he had done during forty years; or, in other words, had acted as a Parliamentary expert without any expectation of reward. The case is therefore complicated, and it would be more economical if it were tried by a tribunal of a few experts in engineering practice than by their Lordships of the Court of Session.

In the last session of Parliament a Bill was introduced by the Government which would allow of the creation of a new School of Art in Edinburgh. The Scottish Education Department have been inquiring of the Town Council about the expediency of establishing a municipal School of Art in Edinburgh, that would include responsibility for erection and maintenance. The Department would, however, make a substantial grant towards the initial cost of building and equipment. The annual maintenance would be partly covered by fees, but the Treasury would be willing to grant half the deficiency provided the other half were obtained from local authorities or otherwise. A committee of the Town Council has considered the subject.

ILLUSTRATIONS.

WOOLWICH TOWN HALL: INTERIOR OF ENTRANCE HALL.—A CORRIDOR.

The hall shown in the illustration is 100 feet long by 40 feet wide by 45 feet high, and is surmounted by three domes enriched with plaster decoration. The domes are supported on arches that rise from massive piers connected at first-floor level by a balcony giving access to the principal apartments. In the centre of the hall stands a statue of Queen Victoria, executed by Mr. Frederick Pomeroy, A.R.A., and unveiled by H.R.H. the Duke of Connaught and Strathearn, K.G., &c., December 7, 1905. The hall is lighted by six lunettes formed in the barrel vaults and a three-light window over the principal staircase, the stained glass showing by heraldry the successive dynasties under which England has been governed from the time Woolwich was first mentioned, in association with the names of the more famous owners of the manor of Woolwich of each age. The window over the staircase illustrates the visit of Charles I. to see his great ship, the *Sovereign of the Seas*, and Phineas Pett, the master shipwright, in the act of presenting the plans of the ship to the king. The inscription is as follows:—"Here, in the month of October, 1637, Phineas Pett, the master shipbuilder, having fixed the rigging and sails at the yards, conducted King Charles I. on board H.M.S. *Sovereign of the Seas* before her final departure from Woolwich, and the king is mightily pleased. Her building lost the king the affection of many of his subjects, who rebelled against the levy of ship-money." The architect is Mr. A. Brumwell Thomas.

YESTER, GIFFORD, N.B.: SOUTH FRONT.

VILLA NABEL, COBLENZ.

VILLA IN COBLENZ.

DESIGN FOR ELIZABETHAN HALL MANTELPIECE.

A REALISATION OF BACON'S IDEAL MANSION.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday, the 6th inst., in Tufton Street, S.W., Mr. E. Guy Dawber, the president, in the chair.

Prior to the reading of the paper Mr. Guy Dawber read the following letter from the Secretary of the Royal Institute of British Architects, dated the 5th inst :—

"Your letter of February 14 has been laid before the Board of Examiners, who have reported thereon, and the Council will grant exemption from the intermediate examination of the Royal Institute to those students of the Architectural Association who have passed through the four years' course of the Architectural Association schools in a manner that shall be found satisfactory by the Board."

Mr. **Dawber** said that the contents of that letter would give the greatest satisfaction to members of the Architectural Association. It was a strong testimony to the quality of the teaching given in the classes. He hoped that the privilege would be extended to the evening classes.

Mr. E. **Greenop** then read a paper on

Valuations, Compensations, and Light and Air.

In acceding to the request of our Council to read you a paper on these subjects I wish to explain that I lay no claim to any special knowledge upon them. They were suggested to me, and I willingly offer for your consideration this evening a few observations which my limited experience suggests.

I confess that the title of the paper would not have been a tempting one to me in those rose-coloured studentship days which many of you are still happily enjoying. We all start with ideals, which I believe and hope aim higher than the prosaic matters of valuations, compensations, and light and air. Further, this Association exists for the purpose of training architects rather than surveyors, upon whom these matters usually devolve. Not that I hope any of us mind being termed "surveyors," a title honoured by age and borne by greater men than any of us can reasonably hope to become. But we must take our world as we find it, and if we are to grapple successfully with it, we must observe the conditions which its manner of life and requirements impose. In other words, there must be a considerable commercial element in our up-bringing to accompany the artistic training. Without this it is not, I think, possible for an architect to protect the public from whom we derive our means of subsistence. The client has a right to think that the most important factor when employing us is our ability to protect his pocket, and to enable us to attain this qualification something more than the artistic spirit must be added; we must by diligent observation and study make ourselves competent surveyors. The term "surveyor" embraces many departments; but my observation, I think, may fairly cover them all.

With the hope that this short preface will be some justification for this paper at the Architectural Association, I will proceed to unburden myself of a few thoughts, which I trust may be useful to some of you. Were I by some wizard's aid suddenly transformed from an architect to a client, I should, if looking for an architect for my proposed building, choose one who, besides satisfying my artistic instincts, if I had any, was something also of a valuer, something of a land agent and something also of a quantity surveyor. The more this text is considered the more convincing is the sermon that grows out of it, and, example being better than precept, I can recall—and I do not doubt many of my hearers can also—dire results to clients arising from deficiency under one or more of these heads—picturesque results maybe, but built upon an ill-digested financial foundation, leaving a legacy of a precarious 2¼ per cent. investment or less. The reason is not necessarily reckless misrepresentation or roseate exaggeration born of the enthusiasm of a young architect to see his long-studied fancies moulded into reality, but ignorance of the broad principles of business and commercial life, which govern building operations equally with dealings in stocks and shares, or, indeed, any other commodity. Everything has its market price, and if we manufacture under such conditions as produce a total cost greater than the saleable value we have failed in applying a first principle of worldly wisdom, and our client may righteously be dissatisfied.

You will note that I am tuning these remarks down to a student's keynote, and this for two reasons—firstly, because any attempt on my part to pretend to put forward original ideas on the subjects of valuations, compensations, and light and air would be as out of place here as they would be presumptuous elsewhere; and, secondly, because I interpret the invitation of the Council to mean that I should say something to enable some of you who may be a little younger than myself to bring your ideas to a useful working focus. In doing this I shall doubtless say much that is everyday knowledge to men of my own age, for which I ask their indulgence. If I should appear to make too lavish a use of the personal pronoun or to speak dictatorially, I must ask you to attribute it to the desire I have to avoid giving you what is readily available in the many excellent text-books on these subjects, and to speak only from my own experiences.

To speak first of valuations. What I understand by value is the price which would be given by the average investor ordinarily on the look-out for the commodity in question. It is conceivable that this is something less than the actual theoretical value, as every man expects to get something, however small, off the theoretical value, or, in other words, to get something of a bargain; but, on the other hand, it may be more than would be obtained upon a forced sale in open market, where it is known to possible buyers that there is from some cause a necessity, more or less acute, to realise at once. The figure is not to be arrived at by running your finger down a printed table, followed by an elementary problem in arithmetic, but by the exercise of a judgment trained by observation and experience, with knowledge of the world and some study of human nature. A good pinch of common sense may be thrown in with the other ingredients.

A common object on a solicitor's bookshelf is a copy of Inwood's "Valuation Tables." I can recall instances in which, as events have transpired, a moderate charge of gun-cotton would have involved a preferable risk. As popular works on legal advice in the hands of a layman are to the lawyer, so is the book of valuation tables in the hands of the lawyer to the surveyor. As this sounds like a rule-of-three sum, you may be looking to me for an answer; I should give it as—ultimate increased business to the professional man and corresponding loss to the unfortunate client. Said a solicitor once to me, "We generally do these private valuations ourselves." To my inquiry as to why he made the particular matter an exception, he replied:—"Well, we found we could calculate everything except the proper amount to be deducted for annual repairs and the number of years' purchase." A reply like that would dispel a London fog. I think it must have been the same sunny temperament which induced the gentleman to instruct me that in valuing a fixed rent-charge I should have particular regard to the then standing price of Consols. However, here we were on common ground, and all I asked was that he would allow me to throw in for momentary consideration a theoretical pound of butter.

The young valuer cannot too clearly keep before him the principle that there is no value in land except for what you can make out of it. This may appear so obvious as to almost insult your intelligence, but it is singular how frequently it is insufficiently grasped. I was once asked by a member of this Association what price per foot super he could offer for a site off Fleet Street. When the full blast of this staggering query had passed over I suggested that, if he contemplated turnips, the price at the moment, having regard to the probable quality, would not probably justify his offering more thas 30*s.* an acre. Doubtless by this time he has learnt, like the philosopher with the doubtful breakfast egg, to work from the other end. First find what crop is wanted, then calculate what that crop will cost you from seed-time to harvest, and then what the crop is worth in the market when finally gathered. In other words, what building is appropriate for the position is the question to determine—the rest follows. Observation and inquiry alone can assist you here.

When valuing existing buildings one must, of course, have the necessary knowledge to enable one to estimate with accuracy the probable cost of repairs, the deductions for rates, and a deduction for possible loss of rent and similar contingencies. It is not unusual to see 10 per cent. upon the gross rental value deducted for repairs, but the experienced valuer prefers to take each case on its merits. A stuccoed house, for instance, requiring painting externally every three or four years, would obviously necessitate a much larger annual average outlay than a red brick-faced house of the same size; again, the age of the property, the class of tenant, and other such considerations may vary the conditions materially. The parochial rates in the pound are easily ascertained; they vary in London, as you doubtless know, from about 3*s.* 6*d.* to 12*s.* 6*d.* They are calculated on the net rateable value. I have not time to go into the question of the manner in which under the Rating Act of 1869 this net rateable value is arrived at, but it represents the theoretical net amount going into the landlord's pocket after he has paid out of the gross rent received such outgoings as are necessary to insure the property against fire risk and to keep it in a condition to command the rent. It is a popular error to deduct property tax from the gross rent when making calculations for the purpose of arriving at capital value. There is no such thing as property tax; it is merely income tax, miscalled because it happens to be derived from land or house property instead of from profits of business or the many other sources from which the tax is derived.

In the case of property of small annual value, overseers are legally authorised, if they think fit, to allow a rebate to the landlord upon his paying the rates instead of the tenant, the advantage to them being that he pays whether the property is let or not, and they are not at the expense, trouble and risk of collecting small sums from small tenants. Owing, however, to the increased difficulty of late years of raising sufficient money to meet their many demands, the overseers have in some cases ceased to allow the abatement (usually about 15 per cent.), with the result that the landlords have refused to collect. It has proved to be an interesting corroboration of the belief that the working classes have been under the delusion that they do not pay rates, for, notwithstanding that the amount of the rates has been deducted from the rentals, serious losses have been incurred to owners of such property, owing to their inability to keep tenants, who consider additional burdens are being imposed upon them.

When you have finally got at your net income, you have then to decide upon what is the most important matter, namely, the number of years' purchase to be applied as a multiplier. In other words, what percentage would an investor require during the term in question, in addition, of course, to getting back his capital. Here the tables help you, as far as the mathematics go, but as regards the proper percentage to adopt you must decide this yourselves. In the case of a house, say, in Belgrave Square, an investor would be content—indeed, would have to be so—if he could see, say, 4 per cent. for his money, whereas in the case of an inferior East-end weekly property the expectation of 8, or even 10 per cent., could be justified, the one being well assured, the other more or less precarious.

Valuations of property perhaps more often arise out of mortgage proposals than for other objects. Here I need hardly say the greatest care has to be exercised. Careful inquiry should be made in the neighbourhood in order to compare the rentals of the property in question with those surrounding it of similar character. This is not only a check upon possibly artificially created rentals, but in the case of old-standing tenants it will occasionally be found that the property is under-rented. In making such investigation it is generally possible, with a little humouring, to get information of value from tenants, and it is well to follow up any clue, however unimportant at first sight, as one comes by chance sometimes on information not to be obtained by direct inquiry. Quite recently, by merely following up a casual remark made by a street loafer, I was enabled to get at some facts which I had been for weeks unsuccessfully attempting to obtain through ordinary channels. In weekly property a respectful and sympathetic attention to the recital of the varied complaints of which flesh is heir, of which the female members of this class would appear to enjoy an abundance, will be found profitable, and the continuation of the narrative into the third and even fourth generation backwards may, if borne with fortitude by the surveyor, prove to have a less remote bearing than would appear at first sight upon the subject he is specially concerned with. Old residents will compare the past and present character of the occupants of the houses and drop many useful hints which you will not find in your written instructions, the borrower not having thought it necessary to mention them. At times a visit to the local board offices or vestry hall to inspect the rate-books will be useful, as the rateable values nowadays are usually kept up to date, and, used with caution, are a very good guide as to value. I have always met with courtesy, and at times offers of assistance, at the hands of vestry clerks and their subordinates. Unless you are a ratepayer a charge of 1s. is occasionally made, but your professional card handed in is frequently accepted as a substitute, the object of the charge being to prevent unnecessary inquiries by busybodies, who, having little to occupy themselves with, are over-concerned about their neighbours' affairs. On going to an unknown district examine the particulars displayed in the windows of the local house-agents, usually in the neighbourhood of the railway station.

Where the money to be lent is derived from trust funds it behoves one to be especially careful. The Trustees Act of 1893 throws the responsibility entirely upon the surveyor, as it should do; a trusteeship is a thankless office at best. Trustees are precluded by Act of Parliament from lending upon leasehold property having less than sixty years unexpired. This very much limits the opportunity of investment, and at the present time, when there is so much money always available, it would strike the lay mind as going a little too far on the safe side. It is possible to guarantee the loan made on a property or get it guaranteed by paying a premium to one of the existing guarantee societies, but as the income is reduced by the amount of the premium, and they are fastidious in their choice, I am unable personally to see that they are of much practical use in ordinary everyday transactions one has to deal with.

I fear I have occupied more than its fair share of the time allotted to me to valuations, and must now pass on to the next heading.

Compensation in the sense in which we are here using the term is payment for property compulsorily taken in the public interest. The circumstances which may arise are endless. The most frequent are perhaps those arising out of the formation of and additions to railways, the widening of roadways, the acquisition of land for schools, drainage, &c.

The proceedings are governed mainly by the Lands Clauses Acts, which are generally incorporated with the special Acts obtained by the various bodies acting as promoters. This is not the place in which to go into the procedure in compensation cases, which, as a fact, is looked after by the solicitors engaged. The surveyor's work is confined to making the claim, and supporting it in the witness-box failing a settlement privately. The claimant can elect to go to arbitration or before a jury of laymen, and generally chooses the latter. You are all familiar with the conflicting evidence given by eminent surveyors as to value in these cases. Of course, every allowance must be made for bias, over which the professional mind has a limited control, varying with the individual, but in some cases the evidence given would lead one to consider certain people are more than ordinarily afflicted. However, I think there is little harm done, for if the figures of the promoters and claimant are added and divided by two it is astonishing how closely the verdicts of juries approximate to the result. The young surveyor should be cautioned against the client who has inflated ideas as to his claim, or who imagines that, regardless of the actual value, the more you ask the more he will get. It is you, not he, that will have to go into the witness-box and be cross-examined as to how you arrive at your figures, and he will sit unruffled in court whilst you are having a very uncomfortable time. With such clients it is safer to decline to act, or to limit your evidence to such as you can conscientiously agree to, making him understand that it is open to him to go into the witness-box, since he is so satisfied about it himself, to prove it. This generally brings about the desired result.

The ordinary principles of valuation of course apply to compensation cases. It is usual to add 10 per cent. to the actual value as the recognised solatium for having to part with your property against your will. In one of the recent draft Bills promoted by the London County Council it was provided that compensation should be paid in certain cases, based on the amount which would be required by a "willing seller." As this was no doubt intended as a joke, we cannot do better than end compensations with it.

Light and air.

It is mere trifling to introduce this subject and dispose of it in a few minutes, as I, nevertheless, am compelled to do in order to carry out my undertaking. You all know how such questions have arisen out of the crowding of buildings belonging to different owners in large cities and towns.

Of all the varied matters with which surveyors have to deal, I think light and air questions are the most unsatisfactory to everyone concerned, not excluding the professional men themselves, who, as far as my experience goes, are never in any way adequately compensated for their services. Those services have generally to be performed under great pressure as regards time, the work is fraught with much worry and anxiety, and if you happen to be on the dominant owner's side you are liable to have to listen to such terms as "blackmail," "blood-sucking," &c., from brother architects, who do not want to be interfered with, however much in the wrong they may be. If litigation ensues the proceedings are usually long drawn out, and it is difficult to get the case properly appreciated, and sometimes not even then without models and visits to the premises, which are costly matters. In the end the parties are probably far worse off than if they had settled their differences out of court.

As you are no doubt aware, there have been many methods put forward from time to time for ascertaining the amount of privation of light, but they are theoretical rather than practically conclusive, and the tendency now is rather to rely on the actual opinions of lay as well as professional witnesses upon the question of the quality of the lighting before and after the alleged interference.

In endeavouring to make terms privately with your adversary the opportunity of getting an equivalent for the light obstructed by enlarging windows and skylights should be looked for. Were both sides to employ a reasonable surveyor and be reasonable themselves I believe there are few cases which need be fought.

I endeavour myself to get these cases referred to a surveyor as sole arbitrator. It is a comparatively inexpensive method of dealing with the dispute, and it is generally speedily settled, the latter a point of no little importance where buildings are going up.

I must almost apologise for mentioning the famous case of Colls *v.* The Home and Colonial Stores, so much having been heard of it and so much more having been made of it during the last few months. Put into as few words as possible, the House of Lords decided that, provided a sufficient light remained to the building affected, having regard to the use to which it was ordinarily put, no claim for damage could be sustained against the person building. The plaintiffs in the case made a claim for more than a sufficient light, in which they were supported by earlier decisions. The case was, however, of special interest and value as reviving and restating the existing but dormant law. The earlier decisions laid down that in order to obtain redress for interference with light you must show the interference to be of sufficient importance to amount to a nuisance, and in the older works on "Nuisances," such as "Gibbons's Law of Fixtures and Nuisances," you will find the question of light and air dealt with under the heading of "Nuisances." As was pointed out in the judgment in the Colls case, that which originally was in the nature of a negative right that your light should not be interfered with became gradually looked upon, owing to the tendency of the decisions, as a positive right in the nature of an easement. By its decision in this case the House of Lords brought us back to the point from which we had strayed. The result should, to my thinking, be satisfactory to every fair-minded man. It is the assertion of reason and honourable dealing over selfishness and cupidity.

At the same time, it might be imagined from the statements one hears occasionally that this case presented anyone who cares to avail himself of it with a definite charter to do precisely what he pleases in his building operations, as though his neighbour were entitled to no light at all, except such as the chartered gentleman, in the goodness of his heart, allowed him to retain by special favour. I have had people who knew so little of the case that they have scarcely been able to quote the name of it in an intelligible form quote it against me as though it were a parting shot which settled the whole of my clients' rights, body and soul, for ever.

This, however, is not the case. A man can no more interfere with your rightly-acquired reasonable amount of light now than he could before the case of Colls *v.* The Home and Colonial Stores was tried. In leaving this subject I might mention that one of the Lords Justices in his judgment spoke approvingly of the value of the angle of 45 degrees as a test, and thereby gave, I hope, a new lease of life to it. It may not be very accurate or scientific, but it is very convenient and time-honoured. It is also readily understood by lawyers and laymen.

I may mention in conclusion that a Bill was promoted several years ago, with the combined aid of the Royal Institute of British Architects, the Surveyors' Institution and certain eminent lawyers, for the purpose of dealing with light and air matters on the lines of Part VIII. of the London Building Act, which, as you know, deals with party structures. The Bill is, I think, a most excellent one, but a private Bill of this nature is not hurried on, as you know, in Parliament, and I fear it will be a long time before we see it pass into law.

Meantime we can adopt the procedure for ourselves by referring the matter to a third surveyor. I have now only to thank you for so patiently listening to these, I am afraid, rather disjointed observations.

Mr. Woodward said that Mr. Greenop had imparted into his paper that which he himself sometimes endeavoured to introduce into papers which he was called upon to read, viz. humour. The treatment of so technical a subject as "Valuations, Compensations, and Light and Air" was immeasurably lightened by the introduction of this quality. The paper was also remarkable for the amount of information contained in it, which would be valuable to the student members of the profession, and also to the older branches, if the term might be allowed. It was especially difficult in this case to properly condense the subject in such a way as to come within the limits imposed on readers of papers. Mr. Woodward believed in the advantages afforded by possessing some acquaintance with valuing and quantity surveying. He himself had had the good fortune in the first years of office work to come under a master who taught him these subjects. They tend to produce method in daily work, and enable an architect to protect the pockets of his clients by a knowledge of measurement and prices. In this connection it is important to realise that a client does not employ an architect merely to make pretty drawings. A man can be as thoroughly artistic with as without a knowledge of quantity surveying. There was a tendency to use the word "surveyor" as a term of opprobrium. This was to be deplored. With reference to the words "light and air," it was pointed out that in giving evidence it is better not to introduce the latter, for there is no existing law touching the deprivation of air. With regard to the presence in solicitors' offices of Inwood's "Valuation Tables," Mr. Woodward declared that solicitors knew how to use them intelligently quite as well as surveyors. It is impossible to be too careful in the matter of calculating the number of years' purchase, because there are many charges which must be provided for that do not at first appear. The surveyor cannot remember too clearly that he will be liable for any errors in his calculation or any mishap that may occur in consequence of his misrepresentations. This fact has in some cases been learnt only after a painful and expensive lesson. In one instance an architect was induced by his father's solicitors to value some riverside property on the upper reaches of the Thames. He only afterwards discovered that no tenant would come into the house. In making a report it is well to provide against contingencies by some such statement as "If the house is let at such and such a rental to a substantial tenant on a repairing lease, then it will be worth so much." The necessity for caution will be still further increased if the present Government are successful in passing certain of the proposed measures. The existence of the Taxation or Rating of Ground Values Bill would make a serious difference. The claimant for compensation under the Lands Clauses Acts and similar measures was said to be unwise in his selecting to go before a jury of laymen in preference to an arbitrator, for the former are often not to be relied on. In these cases it is rare that professional witnesses are compensated sufficiently. It is unremunerative work for a busy man who has for indefinite periods to keep himself clear from other work, as well as suffer trouble and anxiety. The paper just read had advocated the use of models as facilitating a proper appreciation of cases arising out of light and air claims. Mr. Woodward believed that models are sometimes desirable, but certainly there are other occasions when they are not, and these latter are in the majority. The method of arriving at injury to light by angles was, he considered, very misleading. Judges are beginning to think that the evidence of surveyors is given with the intention of mystifying. A remarkable measure is Michael Angelo Taylor's Act. Lawyers say that there is nothing which cannot find authorisation in it. It will be found to afford assistance when every other measure fails.

Mr. Max Clarke said that the primary duty of every member of the Architectural Association should be to derive information. They had done so in the paper just delivered by Mr. Greenop. One of the allied objects in holding meetings was to teach the younger members how to speak on such occasions. It would be a matter for satisfaction if those opportunities were more readily seized upon. It was not right that the older members should monopolise the evening. Those who listened to the paper should determine to draw out from the author all the information he was possessed of on the subject. It was perfectly obvious that in professionally dealing with valuations, compensations, and light and air it was essential that one should be equipped with special knowledge. He complained that they had not yet been told how to set about getting that knowledge. What did Mr. Woodward do in the commencement, and did Mr. Greenop or his clients suffer at first? Further, was it to be expected that the clients of those who had listened to the paper would suffer also? Architects are unable to do good work in any of the branches of their profession if they lack a feeling of responsibility and forget that they must do the work of the client who employs them to the very best of their ability. This truism was peculiarly applicable in work arising out of the matters dealt with in the paper. It was illustrated in valuing for clients by a readiness to ferret round neighbourhoods in order to obtain valuable information which might be obtained in no other way.

Mr. M. Garbutt warned the younger members of some of the difficulties they may have to encounter in the course of their work when endeavouring to arrive at a calculation of the value of any property. It has happened that the information supplied by the parties desirous of selling seemed suspicious, and in consequence a visit was paid to the property for the purpose of interviewing the tenants. The documents and everything else seemed all right. It is afterwards discovered that the tenant has disappeared, he having only been put there in order to deceive. Those who build property for their own special occupation and to suit their own ideas, or after purchasing a house introduce much additional decoration, must be prepared when selling again to receive inadequate compensation for the trouble and expense they have been put to. A point in estimating the value of houses is the class of property by which they are surrounded. Similarly a once fashionable district may deteriorate. Small property is certainly nearly always full, but it may be accompanied by frequently recurring small expenses that cut down a profit that would otherwise be very tempting.

Mr. John Murray, who had taken the chair in the absence of Mr. Guy Dawber, said that in order to carry on architectural practice successfully it was advisable to acquire considerable knowledge on these subjects. The calculation of the correct value of property is to be arrived at by considering many facts that are, as it were, only visible to the mind's eye, and bringing other aids to bear. It is necessary to be somewhat versed with the ways of human nature if pitfalls are to be escaped. The difficulty attending light and air cases was familiar to most architects, and they would find it advantageous to keep in mind the words used in the case of Colls *v.* The Home and Colonial Stores. That decision was the same as had been delivered in 1752 by Lord Hardwick. In the opinion of Mr. Murray the passing of the proposed rating Bill would be of very considerable benefit to the public.

Previous to Mr. Greenop replying to the points raised and to the vote of thanks, one of the younger members referred to the remarks that had been made earlier in the evening as to the seeming unwillingness of the junior men to take part in the discussion. This, he thought, might be ascribed to the fact that they never had an opportunity of studying the paper prior to hearing it read on the evening. He was sure that if they were enabled to do this a larger number of those present would express their views. Mr. Murray, in answering this point, explained that only a limited number of copies were sent from the printers, but that if any member wished to see the paper prior to the meeting he had no doubt it would be arranged by the secretary, to whom application ought to be made.

Mr. Greenop, while admitting that it was useless to bring up a claim for deprivation of light, said it was nevertheless customary to combine the words light and air. Moreover, it was not impossible that the loss of air might not be detrimental to the value of an existing building. In considering the fees charged it ought to be remembered that it was necessary to insure oneself against the consequences that would arise out of a possible future mistake. A man who does work at inadequate fees does an injury to his profession. He complained that there was a lot of misunderstanding, wilful or otherwise, when the desirability of the taxation of ground values was insisted upon. Ground values are already very much rated. The taxation of land which is not being put to any use is against the fundamental principles of economy. Mr. Greenop said that one of the speakers had expressed curiosity as to whether his first clients had suffered through his lack of ripe experience. The best answer to this would be by briefly outlining the facts. In his earliest days, when working in an office, he suffered a rude awakening from the dreams of youth when he found himself being sent on messages in connection with valuation and compensation business practised. After doing this for some time he commenced to take a lively interest in the difficulties which came up, and to ask himself what he would do if he were independent. Shortly after his master began to consult him, and finally took his view altogether. Consequently, when he started a practice on his own he was equipped with actual experience. A guiding principle in any doubt that arose was the question, "Now, if this was my money, should I do that thing or not?" He strongly recommended his hearers not to take an ounce more responsibility than they are compelled to do, or to attach definiteness to a matter of which they are not quite sure. Otherwise they might find themselves compromised.

EXETER ARCHITECTURAL SOCIETY.

THE report read at the annual meeting of the Exeter Diocesan Architectural and Archæological Society stated that the proposed excursion to St. Germans was fixed for May 29, and it was also most probable that the long-talked-of visit to Ford Abbey would be arranged in the autumn. Dr. Brushford had promised a paper on "Chained Books" at an early date. The committee much regretted that before long the old church of Allhallows, Goldsmith Street, Exeter, would be demolished, the fittings being removed to St. Pancras. That would be the fourth church destroyed within about fifty years, the others being St. George, St. Kerrian and St. Mary Major. So the old history of the city in its architecture was fast being obliterated. The City Council had desired a member of the committee (Mr. Harbottle Reed) to inspect the pulling down, in case old work was discovered. Any human remains would be carefully removed and reinterred. The tower of St. Petrock's it was hoped, after all, to preserve. The new church, designed by Mr. Sedding, of Plymouth, for Highweek, was nearly completed, and would be a great addition to the Newton Abbot churches, as those already built (except Wolborough) were not satisfactory from an architectural point of view. The style adopted was Perpendicular, and the nave was unusually wide. The committee were glad to hear that All Saints Church, Withycombe, was to have its tower completed. One of the members (Mr. A. J. Radford) recently came across some interesting Mediæval features at his residence, Dunchideock House. The removal of the imposing Palladian structure known as Mount Radford House, the old manor-house of the Barings at Exeter, disclosed, in the pulling down, many traces of sixteenth-century work, and also work of an older structure, which had been at a late period clothed in a pretentious exterior of stuccowork. Numerous remains of mullions and windowwork, and other features in Beer stone lay prostrate amongst the ruins alongside, mixed with the shafts of Doric columns, &c. Close by numerous small houses were being erected on the estate. Some rich examples of old work remained in the partially dismantled Larkbeare House, in the valley below Mount Radford House. At Hennock Vicarage two sixteenth-century wood windows of three lights had been revealed, and were being reopened. One had a most unusual feature, viz. oak stanchion bars. The centre of the house had some sixteenth-century oak-framed partition work, with a doorway into the kitchen, which possibly was the little sanctum of the vicars of Hennock, which came from Torre Abbey from 1259 to 1537. Some double oak partitions originally filled with cob were also discovered. The attention of one of the secretaries had been again called to the fact that one of the original "misereres" in the choir of the cathedral, removed during the restoration in 1870-7, was now in the cathedral library. The committee suggested that the odd one of Perpendicular work, now among the thirteenth-century ones, should be removed, and the original one, of Bishop Bruere's work (1224-44) put in its place, so as to complete the fifty of that bishop's time, which were the most perfect and complete examples in existence, one having the earliest known carving of an elephant, though it was questionable whether the carver had ever seen a live one, as he carved the knee joints the wrong way. No doubt the bishop had seen them when he was taking part in the wars in the Holy Land and told the carver about them, but forgot to mention the legs. The committee were glad to see the decided improvement of the street architecture of the city, and hoped that when anything more was done, the houses might be designed in keeping with the remaining houses of the sixteenth or seventeenth century, so as to retain the picturesqueness of the old streets. The report was adopted and the committee and officers re-elected.

THE DUNDEE ENGINEER'S CLAIM.

THE following communication has been addressed by Mr. Mackison, the burgh engineer, to the members of the Town Council of Dundee:—

Having regard to the recent meetings and discussions on the subject of the administration of the burgh engineer's department, I feel that I am being unfairly treated, my position prejudiced and my professional status injured, in consequence of certain letters and reports, which I have submitted to the town clerk and committees, being suppressed and not minuted. I therefore beg to submit the following facts for your consideration. At the board meeting of the Council on February 1 last, notwithstanding that I had handed in a report dated January 22 last, addressed to the markets and baths committee, referring to certain grave irregularities in the administration of the department under my charge, the town clerk did not bring the said report under the notice of that meeting. I had previously submitted that report, which was partly read to a meeting of the works committee held on January 22. The minute of said meeting, however, contained no record of said report having been partly read or referred to. The markets and baths committee met on the same evening, immediately after the works committee meeting, and, although this meeting was specially called to consider the matters referred to in said report, the deputy clerk was prevented on that occasion from reading said report, and no minute whatever has been made of this meeting. The meeting of the markets and baths committee, dated January 23, 1906, was not held on that date, but on January 22, as I have already stated, and should have contained a reference to the matters in connection with the Miller's Wynd baths and wash-houses which formed the subject of my said report. The report in question being thus suppressed, I wrote the town clerk on February 10 bringing the matter again under his notice, and pointing out that, as a special committee had been appointed to consider the administration of the department under my charge, that committee might consider the matter. The town clerk made no reply to this letter in writing, but verbally informed me that the special committee would not take up the matter in question. The minute of meeting of said special committee held on February 12 contained no reference to my said letter of February 10, or to my subsequent letter of February 12, which were both intended for said committee. The markets and baths committee had their usual monthly meeting on February 13, at which the town clerk might have submitted my said report of January 22, but did not do so. Another meeting of the special committee was held on February 19, but no reference was made in the minute of this meeting to my letters of 10th, my two letters of 12th, and my letter of February 17, notwithstanding that my letter of February 17 was read at said meeting.

Another meeting of the Council was held on March 1, but the town clerk again failed to submit to the board my report of January 22 and the letters before mentioned, notwithstanding the fact that a member of the Town Council called for the letters in question to be read. The town clerk on that occasion only admitted having received two letters from me after the meetings in question, while, in point of fact, he had received other three letters from me before said meetings, making five in all. Mr. John Robertson, works convener, is also reported to have stated at said Council meeting that "no letter from Mr. Mackison had been submitted to him, and had never been read to the subcommittee or any committee." This is not the fact; as I have already stated, the letter of February 17 was read at the special committee meeting at which I was present. In consequence of this further failure on the part of the town clerk to submit my report of January 22 to the Town Council I wrote him on March 13 as follows:—"I beg to direct your special attention to my letter to you of 10th ult., bringing under your notice my report of January 22 last addressed to the markets and baths committee, left by me in the hands of your deputy, and since then (January 22) allowed to remain in your hands undisposed of, and have to request that you forthwith submit that report to said committee for their information and instructions." At the meeting of the markets and baths committee held on 13th ult., at which my letter above quoted was read, it was stated by the town clerk that he could not find my report of January 22 last, and I accordingly produced a duplicate copy, which I had in my possession, which was read to the meeting. On March 14 the town clerk wrote me as follows:—"I return Messrs. Twyfords, Ltd., accounts in connection with the Miller's Wynd baths, which you left with me last night. The committee instructed that these should be passed through the accounts and paid in the ordinary way. Please have this done." On March 16 I replied to the town clerk as follows:—"I have yours of the 14th inst., with enclosures. Messrs. Twyfords' accounts for baths and tubs supplied to Miller's Wynd baths and wash-houses, to which I specially referred in my report of January 22 last, and which were again under consideration at the markets and baths committee meeting on Tuesday, 13th inst., cannot, I regret to say, 'be passed through the accounts and paid in the ordinary way,' inasmuch as the goods charged for in said accounts have not only been wrongly purchased by my assistant, Mr. Thomson, and Mr. M'Gregor, superintendent of the baths, against the specific instructions and standing orders of the Town Council, as pointed out in said report, but are likewise defective in quality and not, in my opinion, of the value stated. I cannot, therefore, certify the accounts in question and herewith return same to you." Notwithstanding that my report was read at said last-mentioned meeting of the markets and baths committee, and notwithstanding the town clerk's letter to me of March 14, that the markets and baths committee had instructed the passing of the accounts referred to in the report in question, the town clerk has not stated in the minute of meeting of said committee that my report had been read to that meeting, or that the committee, as stated in his letter to me above quoted, had passed the accounts. The town clerk having thus again failed to submit to the Town Council, through the committee to whom it was addressed, my said report, or to record the decision of its committee on the subject, I have now no other alternative but to bring the whole matter thus specially before you as a Council. I have also, at the same time, to bring under your notice a report, with three relative letters, which I handed to the town clerk on March 19, dealing with the administration of the burgh engineer's department, and the actings of my assistant and two members of the Council. This report was prepared, as you are no doubt aware, in accordance with the standing instructions of the Commissioners, dated July 12, 1894, and specially communicated to me by the police clerk. This report was not addressed to, nor was it intended specially, for the works committee, but for the whole members of the Town Council, to whom it now falls to be submitted. The works committee, before whom it was read, had no power whatever to remit the said report to the special committee, so far as the actings of the two councillors therein mentioned were concerned, nor had the special committee any authority whatever to deal with this matter or to make any deliverance thereon. The minute of the special committee of March 20, so far as the remit from the works committee is concerned, is therefore quite irregular and ought to be deleted.

The town clerk controverts the statements, and he quotes a letter from Mr. Mackison in which he states that he had no intention of making any imputation regarding the character of the deputy town clerk. The town clerk deprecates the procedure followed by the engineer in submitting reports and communications in a manner that differs from that adopted by other officials.

EDWARDIAN MASONRY.

ACCORDING to the Rev. James King, B.D., vicar of St. Mary's, Berwick-on-Tweed, in the course of excavation on the site of the old post office of Berwick the workmen last week uncovered the exterior face of an ancient stone wall. The masonry is about 6 feet high, 20 feet long, and seems to continue its course eastward in the direction of the sea. The stones, which are composed of the close-grained sandstone used in all the Edwardian fortifications, are built in six regular courses, squared and dressed, and so closely fitted together that the workmen could scarcely thrust their trowels between the joints of the masonry, while the stonework resting upon the wall and forming the lower part of the comparatively modern dwelling-house is merely rough rubblework. The block of masonry is of the same character as the fragments of ancient masonry fronting the Tweed on the river banks by the new road. It is, however, a better finished piece of work, inasmuch as the fine jointing and regular courses of the stones contrast favourably with the gaping joints and uneven coursing of the decaying fragments on the river bank. The former bears marks of being built leisurely at a period free from any disturbing element, while the latter bears marks of being hastily reared at a time of danger. The history of the military vicissitudes to which this ancient borough has been exposed seems to throw light upon the age and aim of the recent discovery. In the year 1316 A.D., two years after the battle of Bannockburn, the old Lanercost chronicler records the fact that King Robert the Bruce, with a large army, came secretly to Berwick and attacked it by moonlight, "hoping to have entered the town on the river side between the Bridge House and the Castle, where the walls were not yet built." Edward I., the builder of the fortifications by the Bell Tower, had been in his grave for nine years when Bruce made the above attack, so that the decaying walls facing the Tweed are not the work of Edward I., but are probably the work of King Robert the Bruce, who took Berwick in 1318 A.D., and determined to strengthen the town and castle as being an important fortress, and a key to the sister kingdom of England. The accession of Edward III. to the throne of England in 1327 A.D. was the harbinger of a dark era for Berwick. Bruce died in 1329 A.D., and Edward, a dashing soldier and one of the greatest English kings, soon showed signs of hostility to Scottish independence, and having gained a great victory over the Scottish forces at Halidon Hill in 1333 A.D., he perpetrated great butchery on the vanquished foe, and marched his victorious troops to Berwick, which readily capitulated to the English army. Throughout his long and prosperous reign, extending over half a century, Edward III., distinguished as a great military monarch, regarded Berwick as his chief fortress of the north, and much of his time was devoted to the extension and strengthening of its fortifications. The strong, well-built masonry brought to light by the excavation at the old post office last week is probably the work of Edward III., and formed a portion of the extended wall running eastward from the wall of King Robert the Bruce along the present Bridge Street and Ness Street towards the sea by the present pier.

VAUXHALL BRIDGE.

THE London County Council on May 19, 1903, upon the recommendation of the late bridges committee, approved the design then submitted of the new Vauxhall Bridge and the proposed architectural and artistic treatment of the same, but reserved for future consideration the question of erecting propylæa on the abutment piers. Models have been prepared and designs submitted for propylæa which are suitable for erection on the bases as now constructed. With regard to the question whether any artistic treatment at all of the abutments should be attempted, it is considered that unless something be done in this direction the bridge will appear in every way incomplete and unsatisfactory. The alternatives are therefore presented either of erecting propylæa on the abutments or of covering them with large groups of statuary. There will be little difference in the cost of the two schemes. In the opinion of the improvements committee the erection of propylæa will produce a much better effect than groups of statuary, and it is recommended that the Council should sanction the erection of propylæa. Models of the propylæa, and copies of a statement describing the same have been placed in the lobby of the Council chamber. One of the models (No. 1) is square and of plain design; the other (No. 2) has rounded ends and some decorative treatment of the sides. The total estimated cost of erecting, in granite, propylæa for both approaches to the bridge, in accordance with design No. 1, would be 12,600*l*., while, if design No. 2 be adopted, the cost would be 15,120*l*. The committee think that design No. 1 would be in greater harmony with the general features of the bridge than No. 2, and propose that it should be adopted, but ask the Council for authority, if necessary, to introduce some slight modification on the Lambeth abutment. The arrangements to be made for the erection of suitable figures on the summits of the propylæa have been also considered. Mr. Alfred Drury, A.R.A., has been engaged in collaboration with Mr. F. W. Pomeroy, A.R.A. (Mr. Drury being the contracting artist), to model and cast the panels for the piers of the bridge, and it is considered that he should also be engaged to design and provide the figures for the propylæa. He is prepared to provide four subjects, different in design but in harmony with each other, in a composite material, for a total sum of 2,800*l*. The material is an excellent one, and has been used, amongst other works, for the fountains at Versailles and for work at Hampton Court. It is recommended that Mr. Drury's offer should be accepted, but that Mr. Bertram Pegram, who was originally suggested by the bridges committee to collaborate in the work, should be associated with him in the provision of two of the groups. The unexpended balance of the several votes passed by the Council for the construction of the bridge is amply sufficient to cover the cost of the works proposed.

EDINBURGH ARCHITECTURAL ASSOCIATION.

A COMPARISON of British and American methods in steel building construction was given by Mr. J. Roxburgh Sharman, A.M.Inst.C.E., in a lecture to the Edinburgh Architectural Association. Mr. Sharman noted the remarkable growth in the use of steel construction in this country, and he showed how American methods were modifying the older practice of British architects. At the same time he indicated that the best practice in both countries was coming very much into line. The Americans were modifying their latest buildings to correspond more with British ideas; we, on the other hand, were getting to appreciate the advantages which steel columns had in building. He showed that the Americans were becoming more modest in the matter of height, the limit of the later buildings being twenty-four storeys. A large number of interesting pictures were shown of the "skyscraper" in course of erection, the marvellous speed with which the building was got in hand was indicated, and admiration was expressed at the splendid organisation of the American engineer. By way of favourable comparison, Mr. Sharman mentioned the expedition with which the Singer's new factory at Kilbowie was erected by Messrs. M'Alpine. This huge building contained 23,000 tons of brick, 7,000 tons concrete foundations, 14,000 ferrolithic, 4,000 steelwork and 1,500 in timber. Its construction occupied about six months, which was a record in building construction even compared with America. The lecturer also discussed the question of loads, and thought probably a safe and good practice would be found in adopting loads somewhere between the extremes of America and Glasgow—dwelling-houses and tenements, 80 lbs. per square foot; theatres and hotels, 100 lbs.; halls, schools, churches, &c., 140 lbs. Mr. Sharman was cordially thanked for his lecture, on the motion of Mr. Tarbolton, the president.

YORK ARCHITECTURAL SOCIETY.

A MEETING of the York Society was held on the 5th inst. in the lecture-room of the School of Art, when a paper on "English Architecture in Later Stuart Times" was read by Mr. C. F. Innocent. Mr. A. Pollard presided. The period of English architecture under consideration, said Mr. Innocent, was that of the four later Stuart sovereigns, from the restoration of the monarchy in 1660 to the death of Queen Anne in 1714, a period lasting little more than half a century, but one of the greatest interest to the student of English architecture, for not only was an immense amount of building done, but during this time the designers emancipated architecture from the crudity of Jacobean design. The architecture was marked by great restraint in design, a restraint which remained in the smaller buildings throughout the eighteenth century, but in the larger buildings was swept away by the exaggerated Palladianism of the Earl of Burlington and his followers. The sanity and practical common sense which mark so many of the designs of the time was largely due to the influence of Sir Christopher Wren, who was the greatest architect of the period, and who continued in the practice of his art until the eighty-eighth year of his age. He was the architect of St. Paul's Cathedral, a building in which an untrammelled display of his powers was prevented by the Court and the clergy. In addition to St. Paul's, Wren also rebuilt some fifty of the London churches destroyed—like the cathedral—in the Great Fire; in these Wren's powers of design are shown at their best, and the various types into which they may be grouped, with the justly celebrated steeples, were illustrated. It was an age of the building of great houses, greater even than those of Elizabeth's time.

Wren built the royal palaces of Greenwich, Hampton Court and Kensington. Other great houses of the period were Ashdown, designed by John Webb, pupil and son-in-law of the famous Inigo Jones; Chatsworth, of which the architect was William Salman, the rival of Wren; Castle Howard and Blenheim Palace, the work of Sir John Vanbrugh. In the planning of houses at this time the square or rectangular block with entrance hall in the centre and rooms at the sides came into general use; it was descended from the Mediæval house with its hall in the centre, through the symmetrically planned houses with projecting wings and centre halls of the Elizabethan period.

A vote of thanks was accorded to the lecturer on the proposition of Mr. Davis, seconded by Mr. Burleigh.

RHIND LECTURES.

In his fourth Rhind lecture in Edinburgh Dr. Haverfield sketched the civilised and settled life which arose in Southern Britain as the outcome of the establishment of a military frontier in the north. It was an important subject, he said, for it was involved in one of the most difficult and serious problems of early English history. The two elements, Roman and Celtic, combined, as in other provinces, in a compromise. The late Celtic art nearly vanished; it survived in Caledonia and in Ireland, but in Britain the neater Roman fabrics drove out the native fashions, despite their artistic charm and quaint interests. Only in a few points could we discern its survival. Only in a few cases could we trace that living love of artistic ornament, that vivid delight in fantastic forms which marked the later Celt. Politically the Roman British world had, of course, no freedom, but much Home Rule. The land was divided up among cantons; their nobles were the magistrates of the cantonal districts, and the towns were the canton capitals. As in Gaul, the Romans allowed the cantonal system to continue. Their tolerance was justified. The cantonal nobles did not form centres of national resistance. Instead they took up Roman ways and speech and adopted Roman titles to describe their office. Politically, therefore, as well as artistically, the land grew Roman. Dr. Haverfield at this point threw upon the screen sketches of towns, country houses and villages, in illustration of his lecture, and pointed out that there were several types of British and Gaulish house, but that all looked outwards. They would not fit into streets and belonged to a non-town civilisation. He thereafter passed on to art architecture, and ordinary decoration. The mosaics, he pointed out, were classical. No single mosaic probably in all Roman Britain introduced a local or topical scene—only conventional hunting-pieces or Greek mythology or geometric decoration of classical type were found. Even the language, at least in the towns, was Latin. This Roman civilisation was destroyed by the Gauls. It existed only in the first area conquered by the Saxons. A remnant of civilised Britons was driven out, but they left the centres of civilisation and retired to lands where civilisation and civilised men were alike few. They became civilised, and that in part was why parts of Wales and Scotland still spoke Celtic.

The fifth lecture treated of the Roman occupation of Scotland. Rome, like all States, he said, had its two parties of Imperial administration, its Radical and progressive party, which always desired to advance and widen the Empire, and its Conservatives, who desired, at any rate, not to go forward. At Rome, as elsewhere, they could trace the pendulum swinging between the two tendencies, and whenever the Progressives were in power there was activity and advance. They could trace three periods when the Progressive policy dominated in Britain—in the time of Agricola, and in that of Pius, and in that of Septimius Severus. Each of these movements was strictly dominated by geography. The advance northwards in England must be either east coast or west coast, and for English purposes alone the east coast was, and always must be, the best. But when they had to advance into Scotland the position altered. Newcastle or even Berwick were not such good bases as Carlisle, and southern Scotland centred round the one strategic isthmus between Forth and Clyde. And to reach this isthmus was easiest from Carlisle. Two or three routes led through the hills towards it. The easiest was that of the Caledonian Railway from Carlisle by Beattock and Clydehead. The next best were those that ran from the English Tyne across Cheviot to Jedburgh, either by Redesdale and the Carter (the line once projected by the North British Railway) or by Deadwater and the Wheelcausey, a route often followed by moss-troopers. Agricola, it was probable, advanced up the west coast. They could trace vague indications of his presence in Cumberland, and perhaps also at Birrenswark. But it was not likely that he used only one line. Certainly they found at Newstead, where important excavations were now proceeding in most auspicious fashion, an earlier fort than that of Pius, and remains belonging to the first century. Anyhow, they knew that he occupied the Forth-Clyde isthmus. That Tacitus told them, and evidence had been forthcoming at Camelon, near Falkirk, in the shape of early pottery, and at Barhill, lately dug in very admirable style by Mr. Whitelaw, of Gartshore, and soon he hoped to be no less admirably described to the public. The line of Agricola's advance was fixed by geography. It must have run by Falkirk and Stirling and Perth and Coupar-Angus, along the Caledonian Railway line towards Aberdeen. But the extent of his advance was more doubtful. Their one account of it was by Tacitus, and Tacitus wrote it partly to canonise Agricola and partly to blacken the Emperor Domitian who recalled him, and wholly without reference to the twentieth century A.D. The book was a drama, in which Agricola won a fifth-act fight at Mons Graupius (that, not Grampius, was the correct spelling, though Grampius had been anglicised as Grampian, and hence was the more familiar to them). The battle was a stage battle. He would undertake, if it were made worth his while, to turn out an excellent case for its having been fought near any ancestral mansion north of the Clyde. But it was one of those fights that lay outside time and place, and he should content himself with observing that the true solution was not to argue but to dig. They had had too much talk about this site; it were best to use their eyes and hands and keep their mouths shut for a while. Archæology would help them. It had already done so at Inchtuthill, where was a large encampment and a bath-house, ten miles north of Perth, in a strong and strategic position. There, as coins, or rather one coin, indicated, they might think Agricola camped for a good while. They should go on to dig up other sites—Comrie, Abernethy, Strageth, Inveresk, Cramond and the like, where Roman remains had occurred. Agricola's work did not last. There was evidence at Barhill of early abandonment. There was general scantiness of early remains. In detail it might be uncertain how much of the north was abandoned. But in 125 the frontier was south of Cheviot. The second advance was that of Pius. The wall of Pius was plainly a basis of frontier defence, like Hadrian's, not a final end. There were forts north of it, and Hadrian's wall was not given up meanwhile. Like the advance of Agricola, that of Pius also did not last long. Coins show it was abandoned by 180 A.D. Septimius Severus made the third advance about 208. He might have visited Edinburgh in his great punitive exhibition, as coins of his were hereabouts. But there was no kind of evidence as to details. The Roman occupation of Scotland was a purely military occupation. At least 150 miles separated it from the nearest civilised parts of Britain, the villages and towns of central Yorkshire.

Correspondence

Rebuilding of Nuneaton Church.

Sir,—Might I ask on what authority your informant of the intended rebuilding of the above calls it an abbey church?

I have complete lists of the 200 abbeys of England, the thirty-seven of Scotland, the seventeen of Wales, the fifty-seven "greater" priories and all the "lesser" priories, yet Nuneaton is not among any of the English monastic edifices on those lists.

There is too great a readiness to take for granted that monastic buildings of less importance than abbeys were abbeys. The church above referred to I may find as having belonged to a friary or a convent, but it is not classed in any of the lists I have referred to, and which I have sorted and checked from the eight big volumes of Dugdale, with verifications at times from Stevens or Tanner where there was any uncertainty. As I wish my lists to be complete and accurate I should be glad of "chapter and verse" for your informant's authority that Nuneaton could boast rightly of having a real and not a so-called abbey in its midst. By so-called, I obviously wish to convey the meaning of the abbatial dignity being mistakenly conferred on a priory, friary or convent by local enthusiasts whose sole authority may possibly be either legend or mere hearsay.—Yours faithfully, John A. Randolph.

GENERAL.

A Collection of ninety-two pictures lent from the London Guildhall will be exhibited in the Kelvingrove Gallery, Glasgow, during the summer months.

An Exhibition of works by German artists, to be held at Prince's Skating Rink, Knightsbridge, W., will be opened on May 20. Professor Von der Velde, architect, is making the necessary structural arrangements.

Mr. Kenneth J. S. Harris has been selected out of 250 candidates for the post of borough surveyor by the Wisbech Town Council. The salary is 175*l.* per annum, together with other emoluments.

Mr. T. Anning Bell and Mr. T. M. Rooke are to be appointed as examiners for the Arts Scholarship Examination and Exhibitions in the London County Council schools. The usual fee is 21*l.* in each case.

The French President opened the exhibition of pastel paintings on Sunday last. It is the twenty-sixth of the series, and contains examples by several of the French painters.

The Court of Common Council have decided that an art loan exhibition of pictures should be held in the Guildhall Art Gallery in the summer of next year at a cost of 450*l.*, exclusive of insurance. The Court agreed with the recommendation.

Mr. E. W. Dyson has been appointed architect for the new Council schools which are shortly to be erected in Race Common Road, Barnsley, at a cost of between 11,000*l.* and 12,000*l.*

Mr. Leslie Wood, F.S.I., of East Grinstead, has gained first prize of 20*l.*, offered by the Carpenters' Company, for an essay on "The Treatment of Woods and Plantations from the age of twenty years to maturity, with full details as to thinning, marketing and demand for various purposes at different periods of growth."

M. Jules Grosjean, the sculptor, has died in Paris in his thirty-fourth year. He lately obtained the commission for the memorial of Gerôme, the painter and sculptor, which is to be set up in Vesoul.

Holborn Town Hall was put up for auction on Monday at the Mart, Tokenhouse Yard. In the auctioneer's prospectus and general remarks the property was described as "valuable and extensive freehold, having a frontage to Gray's Inn Road of about 101 feet, a frontage of about 123 feet to Clerkenwell Road and a total ground area of about 12,800 feet." The first bid was of 10,000*l.* and the last 25,000*l.* There being no further offer the building was withdrawn.

Mr. J. B. Goodacre, architect, Mansfield, has been successful in a competition for a new Carnegie library to be erected in Pleasley Hill, Derbyshire.

A Painting of Franz Hals, *A Youth playing a Mandoline and holding a Green Glass Goblet*, was sold by public auction in Dublin, and was purchased by a London firm for 3,650*l.*

The Glasgow Corporation have been given notice of the following motions:—(1) That it be remitted to a special committee to consider and report upon the advisability of the Corporation adopting a policy whereby vacant land within a ten miles' radius of the city be acquired. (2) That the Corporation authorise the tramways committee to pay over to the Common Good all surplus revenue, to be expended by the Corporation on the purchase of unoccupied land within a radius of ten miles of the city as opportunity occurs.

The Furness Railway Company having sold the cottage at Dalton-le-Furness, Lancashire, where Romney was born in 1734, it was reported that the building was to be demolished. Owing to strong representations from all parts of the country the cottage has been repurchased by the railway company and will be put into good repair, a visit to it being included in some of the company's summer tours.

Mr. Charles Martin, the painter, who recently died, exhibited his first work in the Academy in 1836. He is best known as a portraitist, though he painted subject pictures and even modelled statuettes. Among his sitters have been Mr. T. L. Donaldson (1872), painted for the Institute of British Architects, of which he had been president; a medical student of Edinburgh (1871); Joseph Bonomi, curator of the Soane Museum (1867), and several other members of the family; and Peter Cunningham (1859). Charles Martin was at the Academy schools with Millais, in Rome with Leighton.

The New Central Criminal Court is not sufficiently advanced to be opened in May by the King as was expected. The date has been postponed indefinitely.

The Lincolnshire Architectural Society have arranged to make Norwich the headquarters of its annual meeting this year on June 12 and 13. One day will be devoted to the city and one to excursions in the neighbourhood.

The Local Government Board for Ireland give notice that at an examination of candidates for qualification as assistant surveyors in Ireland held on March 1 and 2, under article 4 of the General Order of February 9, 1900, the undermentioned candidates have qualified in the prescribed subjects:—1, James N. Down; 2, Frederick O'Brien; 3, Jeremiah O'Leary; 4, Thomas Mulcahy; 5, Maurice Murphy; 6, Martin Tierney.

Appeals have been made for contributions towards the sum of 1,140*l.* required to complete the purchase of the Tudor house known as Barrington Court, near Ilminster, Somerset. The property will be under the control of the National Trust. An anonymous donor has offered 10,000*l.* conditionally.

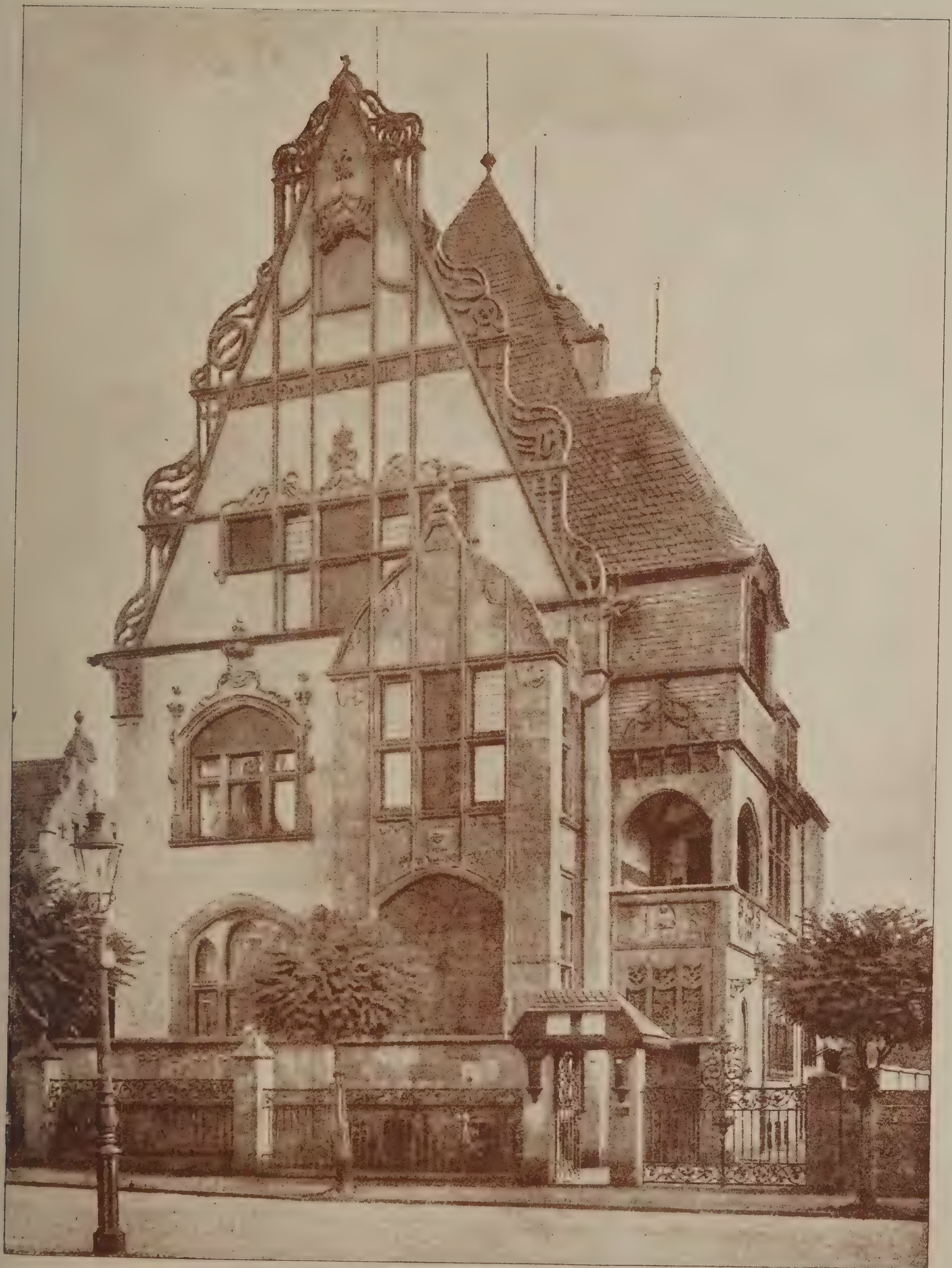
The Clerk of the London County Council has informed the Further Strand Improvement committee that the improvements committee will receive on May 2 a deputation in support of the memorial. Until its presentation on May 2 the memorial may be signed at the Royal Academy of Arts, Burlington House; the Surveyors' Institution, 12 Great George Street; the Society of Architects, Staple Inn Buildings, or at the office of the honorary secretary, 7 Pall Mall. The Surveyors' Institution have subscribed 5*l.* 5*s.* towards the expenses of the committee.

The Court of Common Council, at a meeting on the 5th inst., considered a report concerning the so-called Sir Christopher Wren's house. The Lord Mayor received a letter a month ago from the President of the Local Government Board enclosing a communication with reference to the impending demolition of the house in Love Lane, Billingsgate, the Corporation being asked to secure it for the purposes of a museum or for some similar object. The library committee now reported that there was a doubt as to whether the house ever had been in the possession of Sir Christopher Wren, and further, that the majority of the objects of interest had been removed. Under the circumstances they recommended that the Court should take no steps for the acquisition or preservation of the premises.

The Secretary to the Treasury was asked last week in the House of Commons how long the Ruskin paintings, now being restored at the Gallery of British Art, had been the property of the nation; who was responsible for their having been withheld from public view; and whether means would be taken to insure that any other work of art in the possession of the country should be either exhibited or disposed of. Mr. McKenna, in reply, said that the paintings and drawings by Turner, known as the Turner Bequest, were placed in the custody of the National Gallery trustees in 1856, and the responsibility for not exhibiting them rests with the trustees and director of the Gallery for the time being from that date onwards. He could not give a pledge which would involve interference with the discretion of the trustees and director in deciding whether works of art entrusted to them should be immediately exhibited.

Reports from Khartum, says the *Glasgow Herald*, state that building operations are entering upon a stage of unprecedented activity. The call for building materials and labour is so persistent that a remarkable rise in the prices of both has resulted. One cause for this activity is that the time limits of many holdings of land elapse in a short period, and owners therefore build to save their property from confiscation. Fortunately the higher prices in land and the growing demand from European residents induce more substantial building, and in a far better style of architecture than in the past.

The Architect, April 13th 1906.



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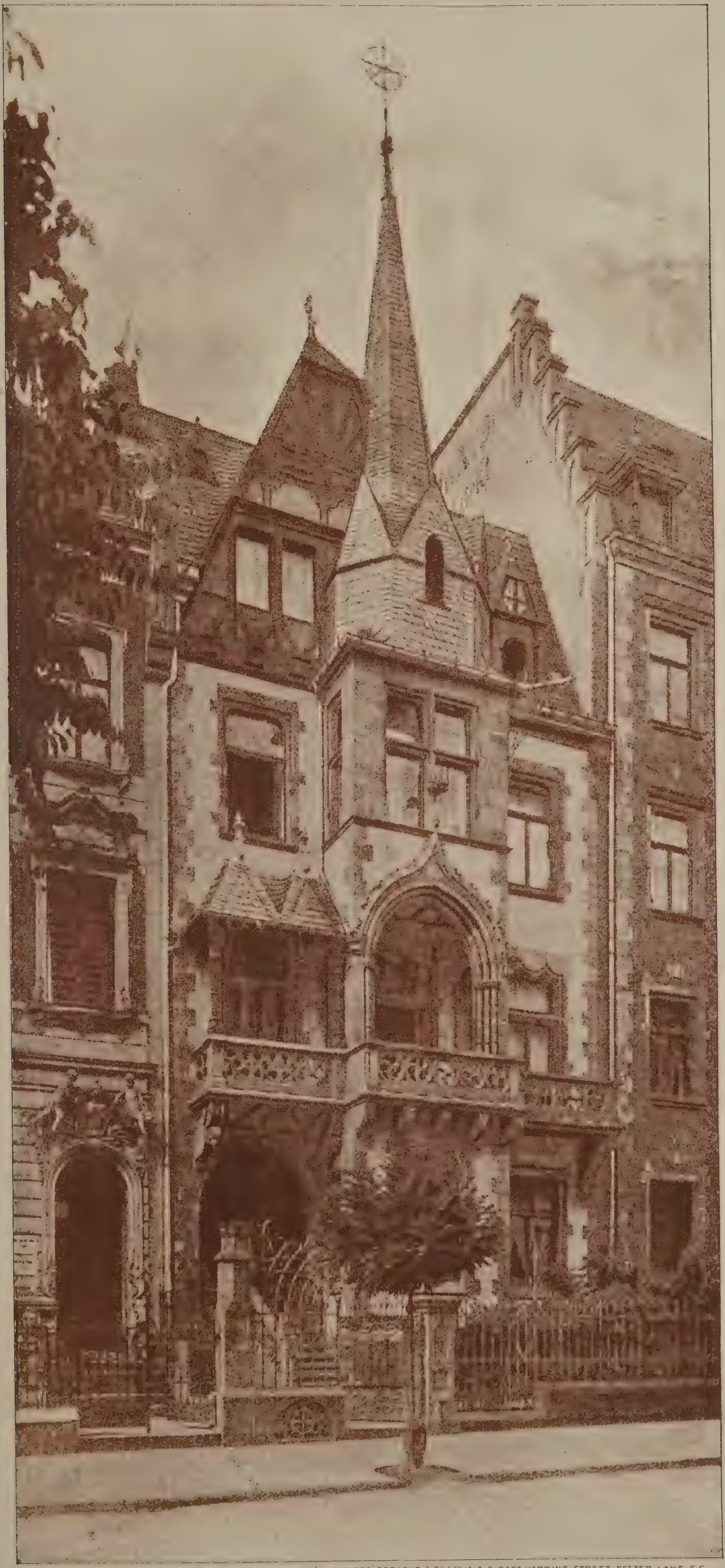
VILLA IN COBLENZ.

WILLY BOCK, Architect.

UNIVERSITY OF ILLINOIS



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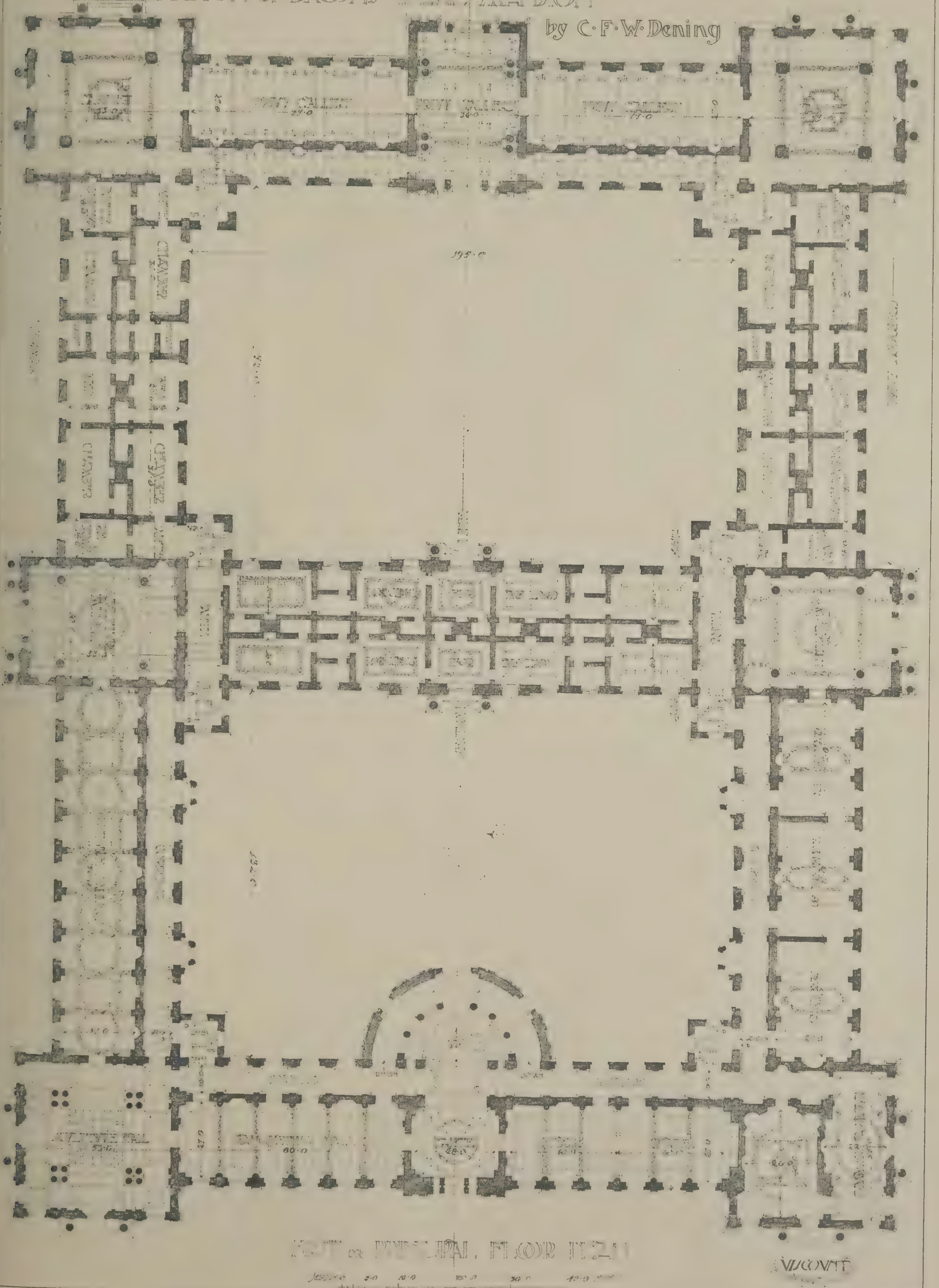
VILLA NABEL, COBLENZ.

WILLY BOCK, Architect.

LIBRARY
OF THE
UNIVERSITY of ILLINOIS

A REALISATION OF BACON'S IDEAL MANSION

by C·F·W·Dening



PART OF PRINCIPAL FLOOR PLAN

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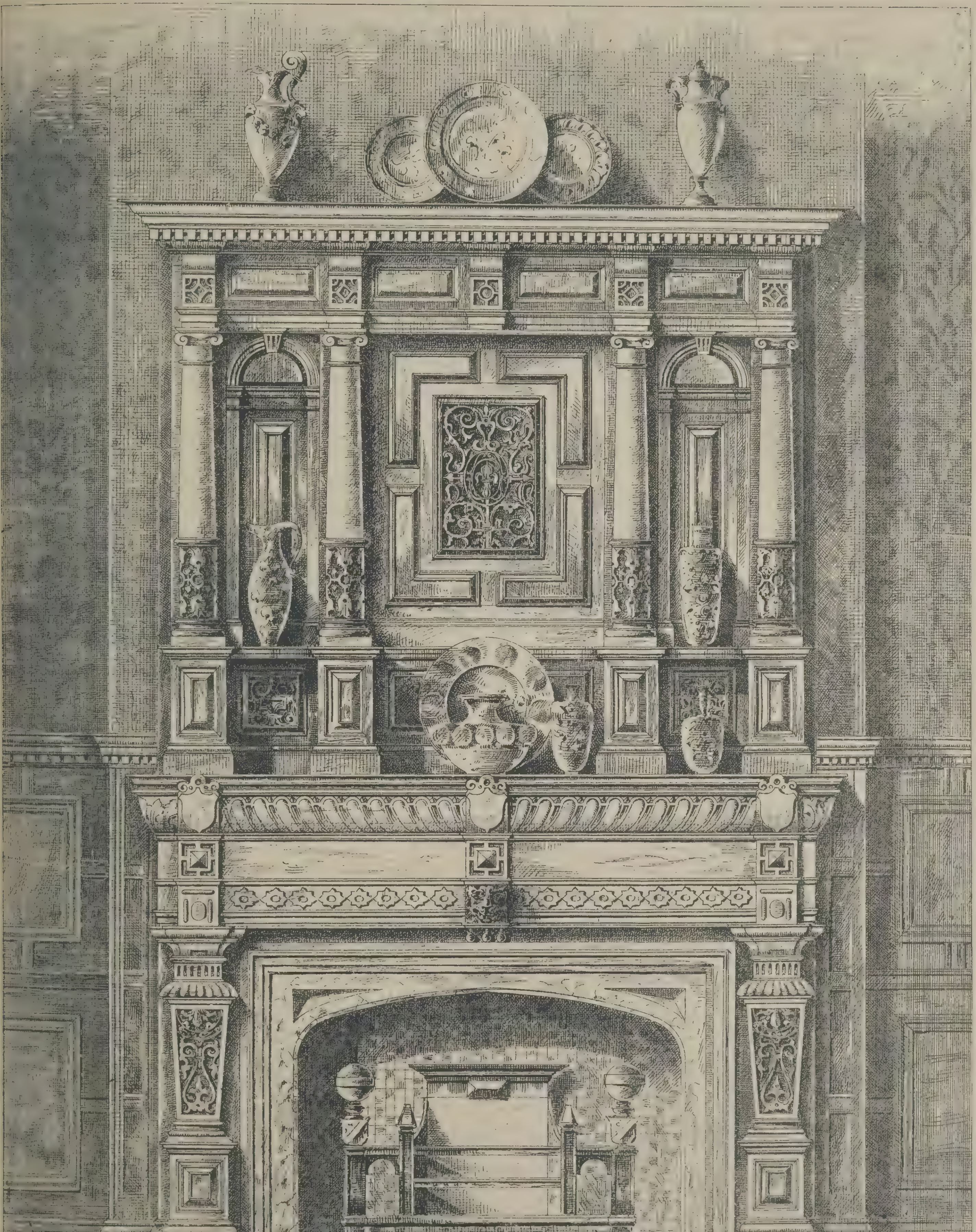
The Architect. April 13th 1906.



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DESIGN FOR ELIZABETHAN HALL MANTELPIECE.

By JOHN GILLESPIE.

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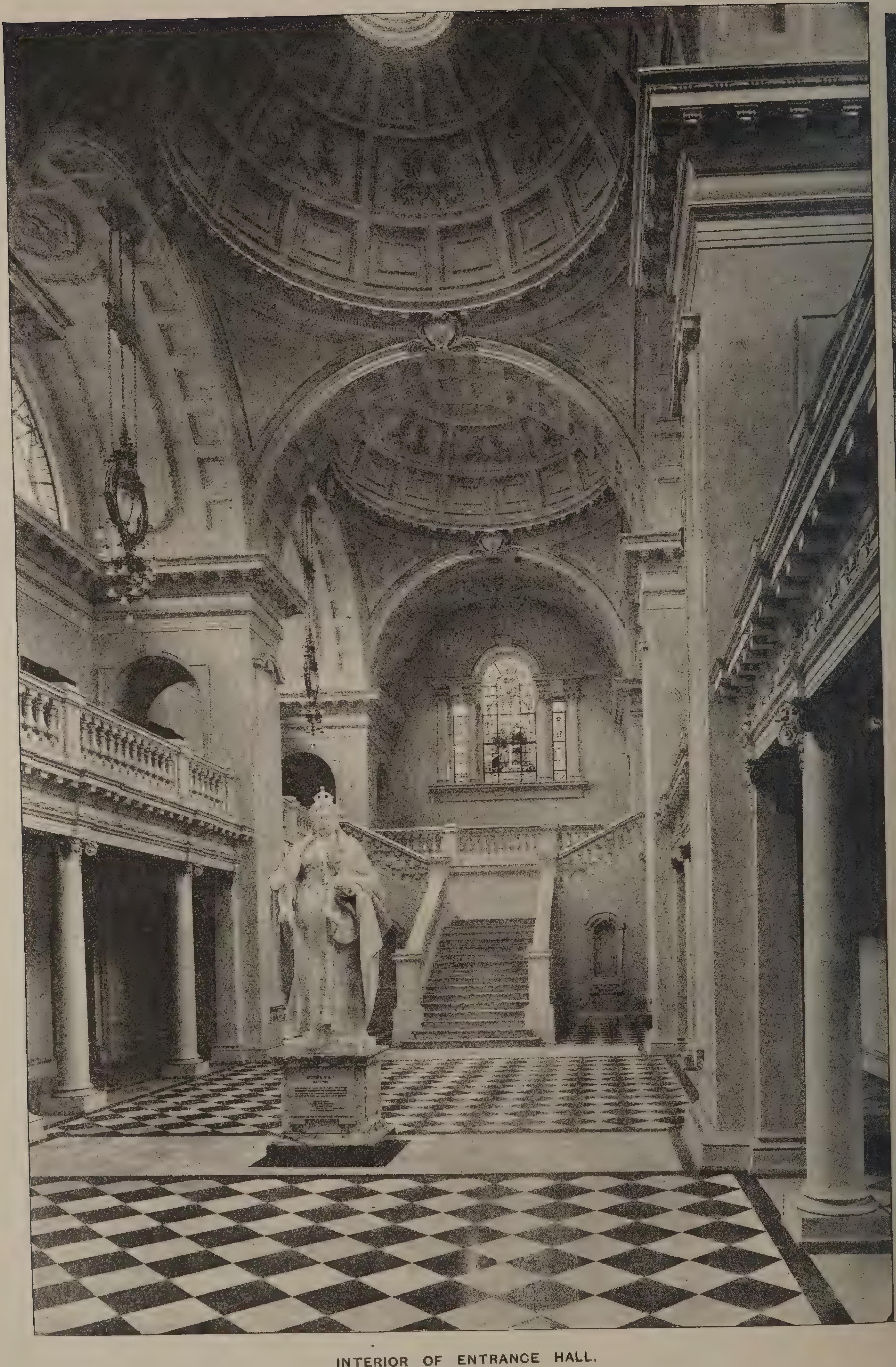
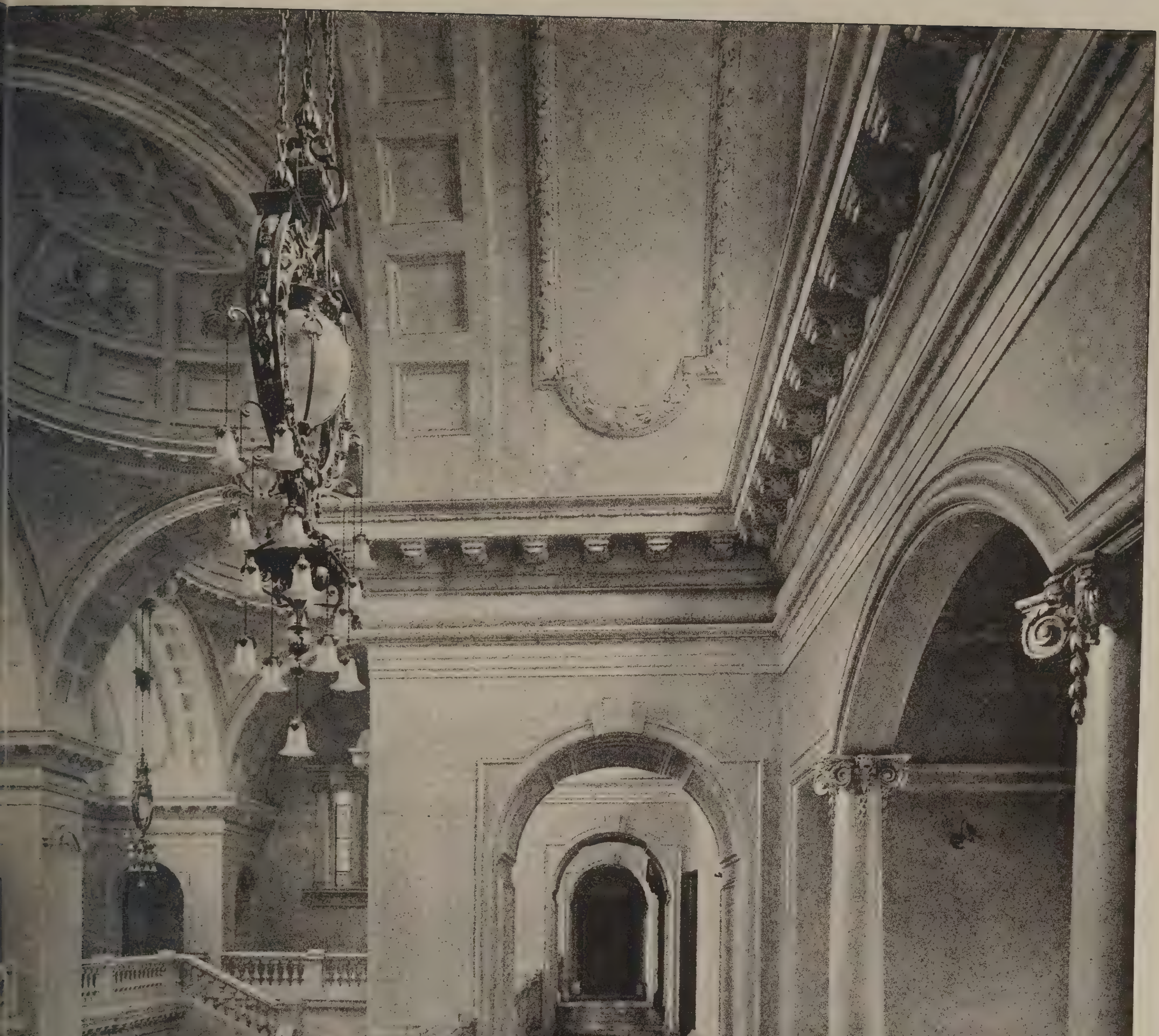
OF THE
UNIVERSITY of ILLINOIS



INTERIOR OF ENTRANCE HALL.

WOOLV

A. BRUMV



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A CORRIDOR.

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M., Architect.

OF THE
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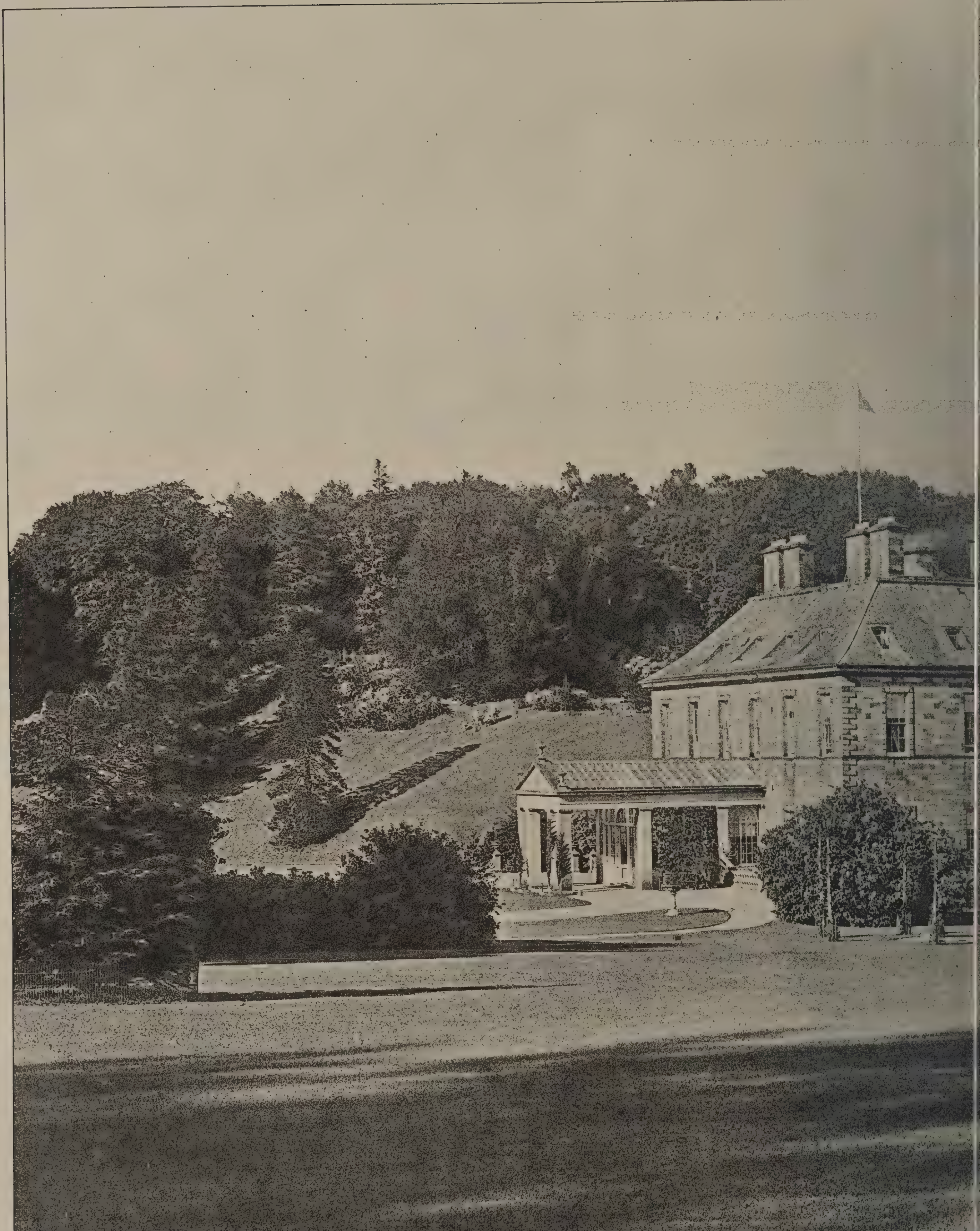

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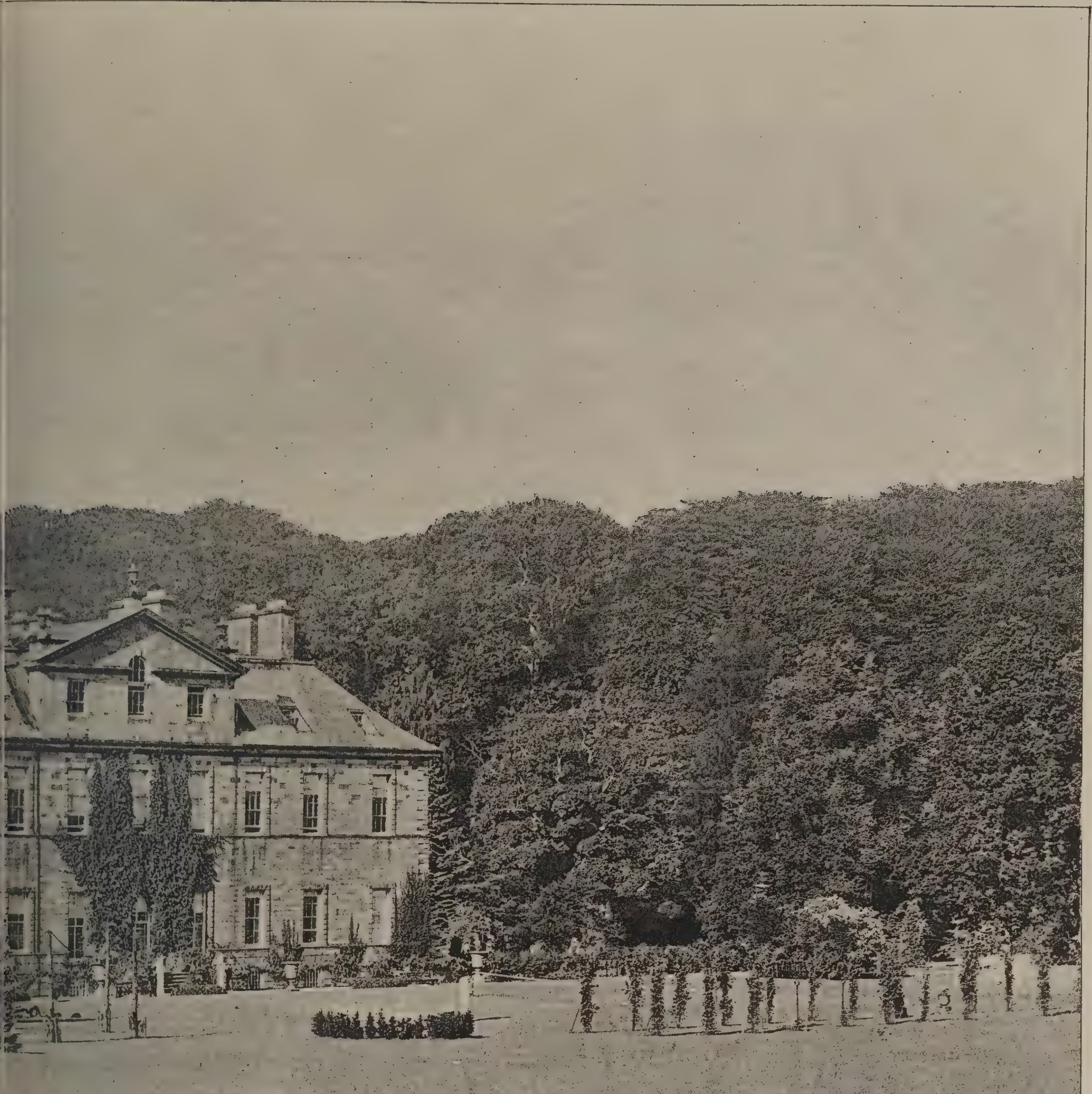
“YESTER,” GIFFO



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B.: SOUTH FRONT.

The Architect.

THE WEEK.

Wednesday there was terrible destruction of life property in San Francisco, and for once it cannot said that architects and builders were in the least ree responsible for the calamity. The selection of a for a city in a region which was subject to earth- kes may now be considered unwise, but there are nany advantages offered by the position, the most vous people will not suggest an abandonment of it. Francisco will be rebuilt, and the destruction may l to improvements. It is not to be expected, how- r, that a different system of construction will be pted. The City Hall, which cost about a million and alf pounds, the Stanford University Buildings, the y office buildings and immense hotels have suc- ibed, equally with the wooden houses which were for porary use. At present it would appear as if no cautions can withstand the tremendous forces which be exerted by the mysterious power which exists eath the habitable surface of the globe.

The death on Saturday last is announced of Mr. bert A. Bryden, an architect who was much eemed in Glasgow. He was in his sixty-fourth year. an early age he became a pupil of Messrs. Clarke & l, and he rose to be principal assistant, and subse- ntly partner in the firm. Afterwards he opened an ce of his own, and latterly his son, Mr. Andrew yden, was in partnership with him. He designed eral important buildings in Glasgow, and as an ert his services were often sought by litigants. He associated with the late William Quarrier, the lanthropist, and designed the homes at Bridge of ir. He took a share in municipal affairs and dered services to the public in several ways. He an admirable type of the Scottish man of business, was not deficient in genial humour. His death be regretted by all who knew him.

The Portsmouth Waterworks Company sought to ain powers from Parliament during the present sion for enlarging the area of the watershed from ch the supply is drawn. The town, from its naval military establishments, is of peculiar importance, deprivation of water might result in serious conse- nces to the whole country. The Portsmouth Town ncil intended to oppose the Bill, but after negotia- ns it was agreed to insert a clause by which the poration would be able to acquire possession of the er company's property. A meeting was held on nday, when it was agreed almost unanimously to ain control of it. Each shareholder will obtain icient Corporation stock to secure him 4 per cent. outlay under this head will be 897,187*l.* 10*s.* The enture stock and the terminable debenture debt will aken over and paid off, as well as all debts, liabilities, tracts and obligations of the company. The directors auditors of the company are to receive 12,757*l.* 10*s.* ompensation. The works are to be taken over as y stand with or without investigation, but it is eved that they are in thorough working condition repair. The conditions appear to be satisfactory, if the Bill before Parliament should be discussed, e is little doubt about its becoming law.

There is no city in France which more plainly gests that at one time it was a part of the Roman pire than Nîmes. The Maison Carrée, the Temple Diana, the tower, the gates and the Pont du Gard in neighbourhood are all evidence of the dominion of ne. A discovery which has recently been made eals that the Romans were not attentive to architec- il and engineering works alone. A sarcophagus has n found near one of the old Roman roads which may be considered as being a museum on a small scale. In it was a beautiful alabaster vase, which preserved the ashes of some young Roman lady. There was also a coffer which contained a collar of gold and precious stones, a ring with a cameo on which was carved a figure of Eros holding a quiver, a tapestry frame in ivory, several vases, a mirror, and, in fact, all the works of ornamental art which the lady possessed. They have been placed in the archæological museum of Nîmes in a special case. Apart from the intrinsic interest of the objects the discovery is important, inasmuch as it suggests that France as an archæological field is not yet exhausted.

In 1902 a departmental committee was appointed to inquire into the constitution, powers and duties of the Board of Manufactures in Scotland—a body that, in addition to aiding several industries, has exercised vast influence over the fine arts. It was recommended that the Board of Manufactures should be transformed into a Board of Trustees having fifteen members. The President was to be an artist who was a member of the Royal Scottish Academy. The Board was to exercise a general supervision of the National Gallery and the National Portrait Gallery. A Bill has been introduced into the House of Commons with the title "National Galleries of Scotland Bill," which proposes to give effect to the recommendations of the departmental committee. Instead of fifteen members there are to be only seven, who will hold office for five years instead of eight, as originally suggested. The question of a chairman is to be determined by the Secretary for Scotland, but apparently it is not essential that he should be an artist. The Trustees are to have the management of the National Galleries of Scotland, the several buildings situated in Edinburgh and known as the Royal Institution, the National Gallery and the National Portrait Gallery, and of Dunblane Cathedral. The expense of the maintenance and repair of these buildings by the Commissioners of Works, together with the expenditure incurred by the Board of Trustees in the payment of officers and otherwise in connection with the management of the National Gallery and the National Portrait Gallery, is to be defrayed out of moneys voted by Parliament. The question will, no doubt, arise as to what is to be done to increase the accommodation for pictures in the National Gallery. It will be remembered that Mr. Honeyman proposed the erection of a new building on the Calton Hill. The Royal Scottish Academy also requires larger space, and other bodies have similar needs. The Bill is therefore likely to be made the subject of several lengthened debates.

The proposal which M. Paul Escudier is to bring before the Municipal Council of Paris has caused much consternation among French sculptors. The number of statues in the streets of Paris has long been perplexing, and the cry is still they come. Several committees exist with the object of finding money to put up a statue to anybody who gains a little notoriety, and it might be supposed there was a rivalry between the streets of Paris and the cemetery of Père-la-Chaise. In fact, a guide to Paris should now be supplemented by a biographical dictionary. There is no doubt the sculptor's art is encouraged. But, on the other hand, the possibility of obtaining a commission for a statue of some notability is an inducement to many students who enter on sculpture without a knowledge of the sacrifices which are inevitable. M. Escudier proposes to begin by prohibiting the appropriation of any part of the Champs-Elysées, the Parc Monceau and the Cours-la-Reine as a site for a statue. This, no doubt, will grieve committees who obtained subscriptions by holding out the prospect that one or other of these places would be assigned by the Municipality for the proposed statue. By excluding such favoured positions the opportunities are increased for utilising places in less favoured districts where a statue would be an advantage.

MENGS AND VELASQUEZ.

Among the 9,000 people who visited the National Gallery on Monday last a large number must have been attracted by the opportunity of seeing the latest addition to the collection, the *Venus and Cupid*, or *Rokeby Venus*, by Velasquez. It would be interesting to discover how many of them were able to appreciate the style of the painter as exhibited in that work. What Sterne called the cant of criticism still unfortunately prevails among us; and although admiration of Velasquez is general of late years, the reasons given for it are not very clear. Velasquez is essentially a painter's painter, and his qualities can only be appreciated by those who have had more or less practical experience in the use of colours. He is not one of the self-revealers to those who see him for the first time. It requires, however, some courage to acknowledge that paintings are beyond us. But in the case of Velasquez, if his works appear undeserving of all their praise a strong excuse is forthcoming. A picture by him was not seen in the National Gallery prior to 1846, and the hunting-piece was not of a kind that would rival masterpieces by other artists. Indeed, it may be said it was owing to the writings of Richard Ford that the Spaniard was able to gain a footing in this country.

The neglect of Velasquez was not confined to England. If the experts who accompanied the French troops were competent to understand his value there is no doubt the paintings would have been carried off to France and dispersed. Artists and amateurs followed one or other of the numerous roads to Rome, and it was accepted that in Italy alone painting was to be studied. We believe that the first artist outside Spain who was courageous enough to pay a tribute to Velasquez was Raphael Mengs. In his case the recognition was remarkable. Mengs, like many other German artists, was as much an æsthetician as a painter. Fuseli, who bore some resemblance to him, describes him as a deep scholar whose writings are full of most useful information, deep observation and often consummate criticism. He was born in Dresden in 1728, and was the son of a Danish painter. He exhibited so much talent when he was a boy, he was sent to Rome in his thirteenth year, and on his return three years later he became Court painter to Augustus III. of Saxony. He preferred, however, to live in Rome, and quickly went back. When he was twenty-six he was elected President of the new Academy of Painting in Rome, and he obtained commissions for altarpieces and other works. Twice he lived in Spain, where he was appointed principal painter to the king. Many grandees were proud to patronise him. He was recognised as a legislator who was able to lay down the law for all living artists, and as one who alone was able to explain the principles of the ancients. Among those who sought knowledge from him was Winckelmann, who is described by Fuseli as a parasite for the fragments that fell from the conversation or the tablets of Mengs. In return for the favours he received Winckelmann lauded Mengs as the foremost artist of the age, and one who was never likely to be equalled. He believed him to be a resuscitated Raphael, whose mission it was to demonstrate by his own works what is possible for human forces to achieve. The fact was that Mengs sought after a higher ideal in form than the *Apollo Belvedere*, which to Winckelmann was the noblest example of art. But as a painter Mengs not only was unable to realise his aspirations, but he could not paint a figure which suggested a living being. He played a practical joke with Winckelmann and the cognoscenti by representing a pseudo-Greek figure in ancient style which was accepted as a genuine discovery. But he was not endowed with the qualities which were demanded for ordinary work. In everything he did the influence of an ancient master was perceptible.

Mengs's defects, however, made him an admirable critic. Possessing definite ideas about what should be attained by painters, he was able to point out how far they approached or departed from his ideal. T scrutinise representatives of all the Italian schools i his way would require a life of patriarchal length Mengs therefore confined himself to three painters Raphael, Correggio and Titian. He analysed thei drawing and modelling, their chiaroscuro, their colouring, their composition, their ideals, and then compare their results with those of the ancients. It is needless to say that with a man of his class victory wa always with the ancients. There might, for instance be no surviving examples of Greek colouring. But, a Mengs said, "I imagine to myself that Zeuxis an Apelles were not only true but very beautiful in thei colouring."

To ask a man whose prepossessions were so strong to assess the value of a collection of Spanish painting displayed at least great confidence in Don Antoni Ponz, who was the intermediary. He wished t describe Spain and its treasures, and the contributio of Mengs about the Spanish schools is not the leas interesting part of the eighteen volumes which wer produced. The inquiry was not without advantage t Mengs, for he was compelled to take a broader view o art in general. For the first time he recognised tha there could be different styles of painting, some o which at least merited approval. There was th sublime style, the beautiful style, the gracious style, th expressive style and the natural style which imitate nature. There was also the vicious style, which wa adopted by some imitators of Michel Angelo, Correggi and masters of the Lombard school. There was, moreover the facile style, which could be attained by many amateur without much effort. Whatever the style it was subject to laws relating to drawing, light and shade, invention and composition. The three Spanish painter whose works he had to consider were Velasquez Ribera and Murillo, examples by whom were to b seen in the principal apartments of the king in Madri Mengs was struck with the truth and intelligence in th treatment of chiaroscuro displayed in the works Velasquez. It is said that he understood the effect the ambient air which is interposed between objects and by the treatment enables us to recognise the distances separating them. The examples of the thre periods of the master form, it is said, a school for artist in which they can discover the method followed by th painter in order to arrive at so excellent an imitation nature. Mengs points out especially *The Water Carri of Seville* as evidence of the restraint which Velasque imposed on himself in imitating nature. Although h endeavour to be exact has made the picture appear be a little dry and hard, yet we can realise the essenti difference in treatment between the parts which a illuminated and those which are in the shade. Th picture, we believe, now belongs to the Duke Wellington, and was exhibited a few years back Burlington House. Another painting noticed b Mengs is *Los Borrachos*, in which Bacchus crow some drunkards. In it we are told Velasquez imitat nature, not as it is, but as it appears to be—a di tinction which was made for the sake of theory. *T Forge of Vulcan* does not recall Homer, but Mengs i sists that the Cyclops are a perfect imitation of natur Of the *Fileuses* or *Hilanderas* Mengs remarks that t hand of the artist does not seem to have had any part in t execution of the work, which seems to be created by single act of the will—words which are often erroneous applied to the works of the painter in general. Concer ing the portrait of Donna Marguerita of Austria, Men declines to say anything about the beauty of the su ject, for the lady was not lovely. But he said that proves to us what effect is generally produced by t imitation of nature, and still more when mere beauty not supposed to be the principal object which is soug The equestrian portrait of Philip IV. excited admirati through the painting of the horse as well as the figu of the king. His Majesty's head was finished with much care that the skin appears to be transpare

, as now, the royal portrait was a pendant for one e Duke D'OLIVAREZ, which MENGS considered was way inferior—a proof of honesty on the critic's as well as on the painter's. A picture hung in part of the palace called *del Ritiro degli stati del o*, and which represents the *Surrender of Breda*, d to have all the perfection belonging to the sub- But MENGS states that the lances which form so rkable a part of the painting were not executed by master's hand. In another part of his criticism SQUEZ is placed on a level with CORREGGIO and BRANDT.

may have been because MENGS as a critic was ified with MENGS as a painter that so little notice aken for a long period of the works of VELASQUEZ. IE was amazed when he came in front of the s of the great Spanish painter. His whole style ne altered, although the people who bought pictures at time were not satisfied with the new manner. nilar effect has been produced on painters from countries. Of late years many critics have ne votaries of VELASQUEZ. But amidst all the siasm, it should not be forgotten that when the erence was strongest RAPHAEL MENGS risked his ation in order to have justice done to one of pe's foremost artists.

AN ACADEMY RECORD.*

HERE is sometimes a misgiving among those who contemplate the purchasing of works in several es that the series will never be completed, and dingly they hesitate about subscribing. There be no apprehension of that kind in respect of Mr. ES's Dictionary. The fifth volume has appeared, the conclusion of the excellent work is conse- ly within sight. All who have gone through the es will be ready to admit that Mr. GRAVES has ed to have his laborious and costly undertaking ed with success.

mong the architects whose names appear in the volume the most successful was JOHN NASH. No ect was made the subject of more criticism. Some ago his Regent Street was condemned because of onotony and the unsubstantial character of the s. But of late years, when questions of great ays have become prominent, it is recognised with all its shortcomings, there is no more effective ughfare in the Metropolis. JOHN NASH began iting in the Academy in 1796. He was then in rty-fourth year; he continued regularly until he had no work in 1804, and his last design seen in 1805. There was accordingly nothing ggest his metropolitan improvements, or his for GEORGE IV. in Buckingham Palace or ighton. At a time when so many architects sending in designs for temples, altars and ities for which no client could pay, it is pleasant reading to find in the majority of cases ASH presented views of buildings which he had d or was about to erect. In 1797 were "Altera- to Corsham House" and villas at Dulwich and gate Grove. In the following year among his was a conservatory for the PRINCE OF WALES. ingham Hall, Nonsuch Park and a Quadrangle at alen College, Oxford, were other exhibits.

hatever might be said about the Academy in later there is no doubt that in those days there was a to encourage architectural draughtsmanship. The ittee of selection this year would be likely to take very poor joke, if not an insult, if any man were mit plates which he intended to use in a treatise spective. THOMAS MALTON was allowed to do so. His son, THOMAS MALTON, jun., probably sent in more drawings, not designs, but views of buildings than any contributor. Between 1773 and 1803 he exhibited about 130, the majority derived from various parts of England. A large number, if not all, were engraved. The old rule of eight subjects was not enforced in his case, for in one year he had thirteen views of London. The plates which bear his name, and which are still in request among collectors and dealers, suggest his ability. But it is remarkable that so clever a man never erected even a cottage. He sometimes contributed, like so many of his contemporaries, designs for a triumphal bridge, a bath, a prison, a temple, and on one occasion a design for the curtain of Drury Lane Theatre. Another member of the family, JAMES MALTON, likewise prepared many architectural views. Several of them were derived from Dublin, where all the MALTONS appear to have found employment.

An architect who enjoyed a large practice and was a contemporary of the MALTONS was THOMAS LEVERTON. In 1771 there was a design by him for Woodford Hall, Essex, then in course of erection. In 1783 he showed three drawings of "Penitentiary Houses," for which he had received a premium from the Government. Two years afterwards he sent a view of one for 600 male and 300 female convicts. At the time prison reform was receiving attention. HOWARD had published his revelations in 1775. It was found that in several of the prisons or bridewells no food was allowed, and in county gaols, although food was given for murderers and highwaymen, there was none for debtors. In some gaols no sewers existed, and as the window tax fell on the gaolers, windows were stopped, regardless of the stifling of the prisoners. In 1778 an Act was passed for the establishment of penitentiary houses. Three commissioners, including HOWARD, were appointed to select a site for the first, which was to be at Islington, and there was a second to be set up at Limehouse. Differences arose between the supervisors, and the project fell into abeyance. In 1792 JEREMY BENTHAM offered to provide a penitentiary or panopticon on a circular plan at his own cost. Two years afterwards the Government agreed with him to erect a prison for 1,000 convicts for the small sum of 19,000*l*. Lands at Tothill were purchased, but it was not until 1816 that a part of the Millbank Prison was completed. The outlay on it was about half a million sterling. LEVERTON's design was therefore never carried out.

The only drawing of the late Professor HAYTER LEWIS exhibited was in 1839, viz. "Sketch for a Cathedral formerly proposed to be erected in Manchester." THOMAS LITTLE exhibited between 1832 and 1851 several designs, including chapels at Nunhead Cemetery and St. Mark's Church, Regent's Park. The attraction of the nobility for English people is suggested by the designs produced by T. LLOYD between 1813 and 1817; they comprise a "Park Entrance for a Nobleman," a "Design for a Nobleman's House," a "Design for a Nobleman's Seat," a "Design for a Nobleman's Mansion" and a "House in Castle Style." Whether any commissions came from plebeians after looking at them is not recorded. SAMUEL LOAT was another designer of ambitious works. His subjects comprised a national gallery, a theatre and an Italian palace. The first gained him the gold medal and travelling studentship in 1828. He returned from Rome in 1832, and exhibited a design and section of the Corsini Chapel. What became of him is unknown. Another prizeman was W. C. LOCHNER; he won the gold medal. In 1808 he exhibited a design for a triumphal building; in 1811 a design for Bethlem Hospital, which gained for him in conjunction with J. H. GOOD the first premium. He also is another of the exhibitors who appeared and disappeared within a few years. GEORGE MADDOX was at one time expected to attain a high position as an architect. C. R. COCKERELL and DECIMUS BURTON were among his pupils and owed much to his teaching. In 1796 he exhibited a design for a villa, and this was fol-

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he Royal Academy of Arts*. A Complete Dictionary of butors and their Work from its Foundation in 1769 to 1904. gernon Graves, F.S.A. Vol. V., Lawrence to Nye. n: Henry Graves & Co., Ltd., and George Bell & Sons.)

lowed by Roman monuments, a church at Greenock, and an architectural study. But to the end of his life he was looked on only as a fastidious drawing-master.

One work of FREDERICK MARRABLE'S is sufficient to indicate the growth of administration in London. Appointed as architect to the Metropolitan Board of Works he designed the offices in Spring Gardens, which have now to be supplemented with a large number of temporary offices. In 1843 he exhibited the Prescot Workhouse, in 1861 the Holborn Viaduct, in 1863 the Garrick Club, and subsequently the church of St. Peter at Deptford.

The painters and sculptors are best remembered of the artists whose works are enumerated in the fifth volume. Complaints are made about the number of portraits accepted. But Sir THOMAS LAWRENCE did not hesitate to send a dozen to a single exhibition. His contributions reach 311. No other artist, we suppose, was ever so fertile in one class of work. MILLAIS does not approach him, for although he might show eight examples in a single exhibition, they were varied in character. Lord LEIGHTON, although great as a portraitist, sent very few examples of that kind. His first work was seen in 1855, and it was the well known *Procession of Cimabue's Madonna*, which is now in Buckingham Palace. CHARLES ROBERT LESLIE began exhibiting in 1813. He gained his renown by delightful humorous scenes, but his first work might have been inspired by FUSELI, for it was a murder scene with a motto from "Macbeth." The next year he showed the Witch of Endor raising the ghost of SAMUEL, and in 1816 the death of RUTLAND in "Henry VI." By 1819 he had discovered where his strength lay, for he sent the painting, which was afterwards engraved, of ROGER DE COVERLEY going to church. In 1822 appeared "The Rivals," and in 1824 "Sancho and the Duchess." For nearly forty years there followed what THACKERAY calls a series of noble works, which delighted the world by calling into pictorial presence, and informing "with life, grace, beauty, infinite friendly mirth and wondrous naturalness of expression, the people of whom his dear books told him the stories, his SHAKESPEARE, his CERVANTES, his MOLIÈRE, his LE SAGE." A painter of varied abilities was EDWIN LONG, who upheld his position from 1855 to 1891. An artist who should have been an Academician was CHARLES LUCY, and who, from the list of his works, was consistent in the adoption of incidents which were worth representing on canvas.

The volume also records the numerous works of DANIEL MACLISE, who seems to have conquered from the time he came to London. He entered the Academy schools in 1828, but next year he was able to have a scene from "Twelfth Night" exhibited. He might have been the fashionable portrait-painter of his time, but he rarely had more than one portrait in an exhibition. It may now seem strange that a man who was so sculpturesque in his figures never attempted to work in relief. HENRY STACY MARKS was more dry in his humour than LESLIE; but the course he commenced with his *Dogberry* he followed for over forty years, *i.e.* from 1853 to 1897. Numerous as were his works, there was only one portrait among them. JOHN MARTIN, who painted *The Deluge*, *Pandemonium*, *The Fall of Man*, and various other difficult scenes, might not be supposed to have his works approved by Academicians. He was an exhibitor in 1811. His *Clytie* in 1814, who was supposed, instead of languishing for the sun, to be all night on the trackless wild teaching the listening rocks her moan, was not satisfactorily hung. But MARTIN continued to exhibit until 1852, when he closed the series by a characteristic *Destruction of Sodom and Gomorrah*.

WILLIAM MULREADY is also summoned before us. He exhibited in 1804 views of Kirkstall Abbey, and his last work was seen in the exhibition of 1862. To the end he was an earnest student. There can be no doubt that he prized the Academy, and his election to an Associateship in 1815 and to membership in 1816 hac a wonderful effect on his powers. In 1816 he exhibitec *The Fight Interrupted*, in 1819 *The Loan of a Bite*, anc in 1820 *The Wolf and the Lamb*—three masterpieces Although his pictures were sought after, year afte year he exhibited no more than a single example Many more works which are identified with the histor of English art could be cited. And, indeed, amateur will find it a pleasant occupation to refresh thei memories by turning over the pages of Mr. GRAVES' volumes.

LODGE AND COTTAGE, MAXSTOKE PARK.

THESE two buildings were recently erected at th above for Mr. B. T. FETHERSTON. The bungalov lodge is faced with MARK LLOYD'S 2½-inch sand-facec bricks, and the cottage with Kenilworth selected stocks the upper portions being cement rough-casted with pro jecting half-timber gables. Dark Rosemary tiles cove the roofs, with half-round ridges. The windows ar filled with leaded lights by HARVEY & ASHBY, and hav tile cills and heads, the same material being used a cappings to chimneys. Oak posts, lintels and bracket are introduced in the porches. The cottage was plannec with the idea of same being used on occasions a gentleman's quarters, which accounts for the doubl living-room, dining-room, bath-room, &c.

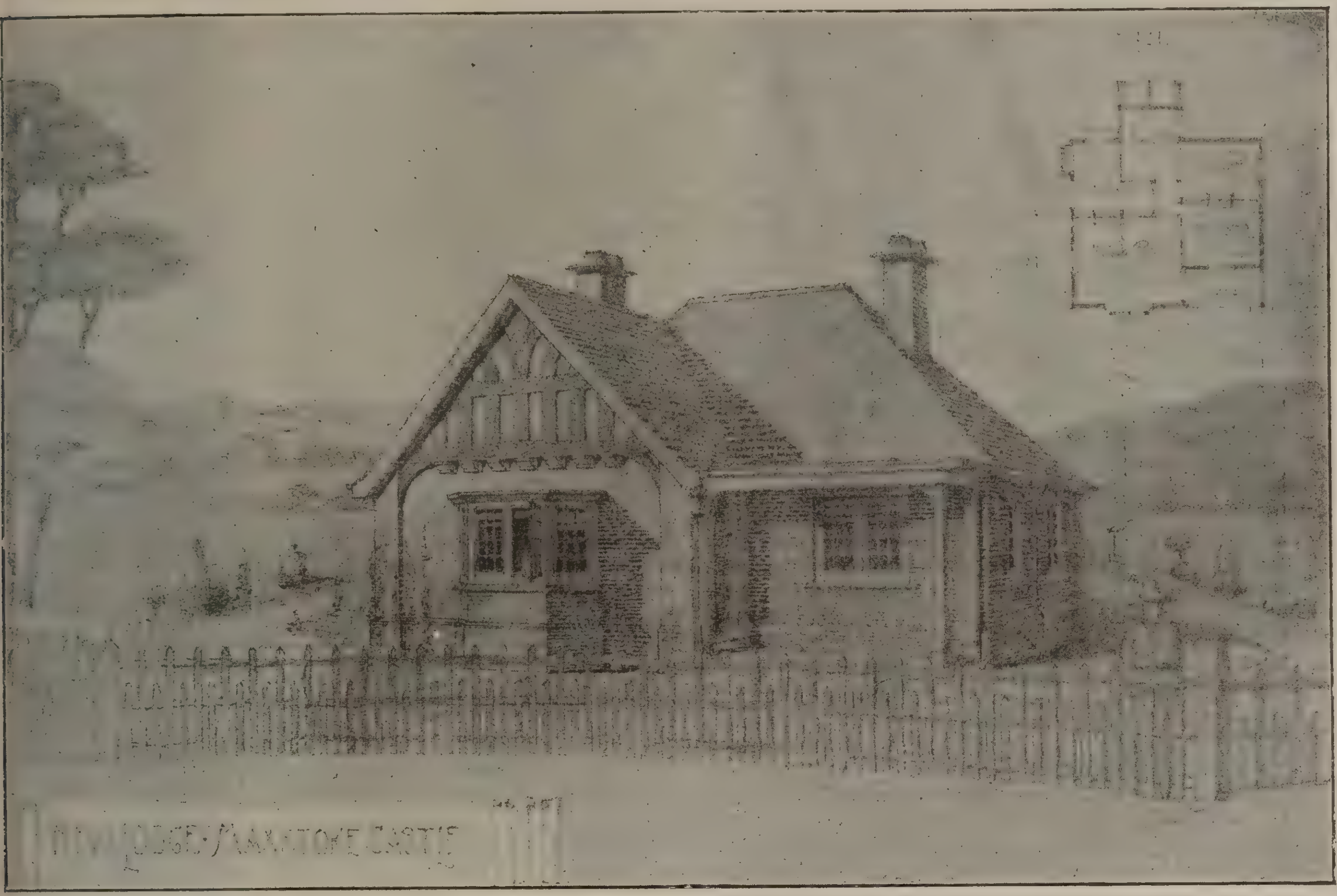
The whole of the work was carried out by M FRANK DAVIS, builder, of Moseley, Birmingham, unde the superintendence of the architect, Mr. CHARLE ARMSTRONG, of Warwick.

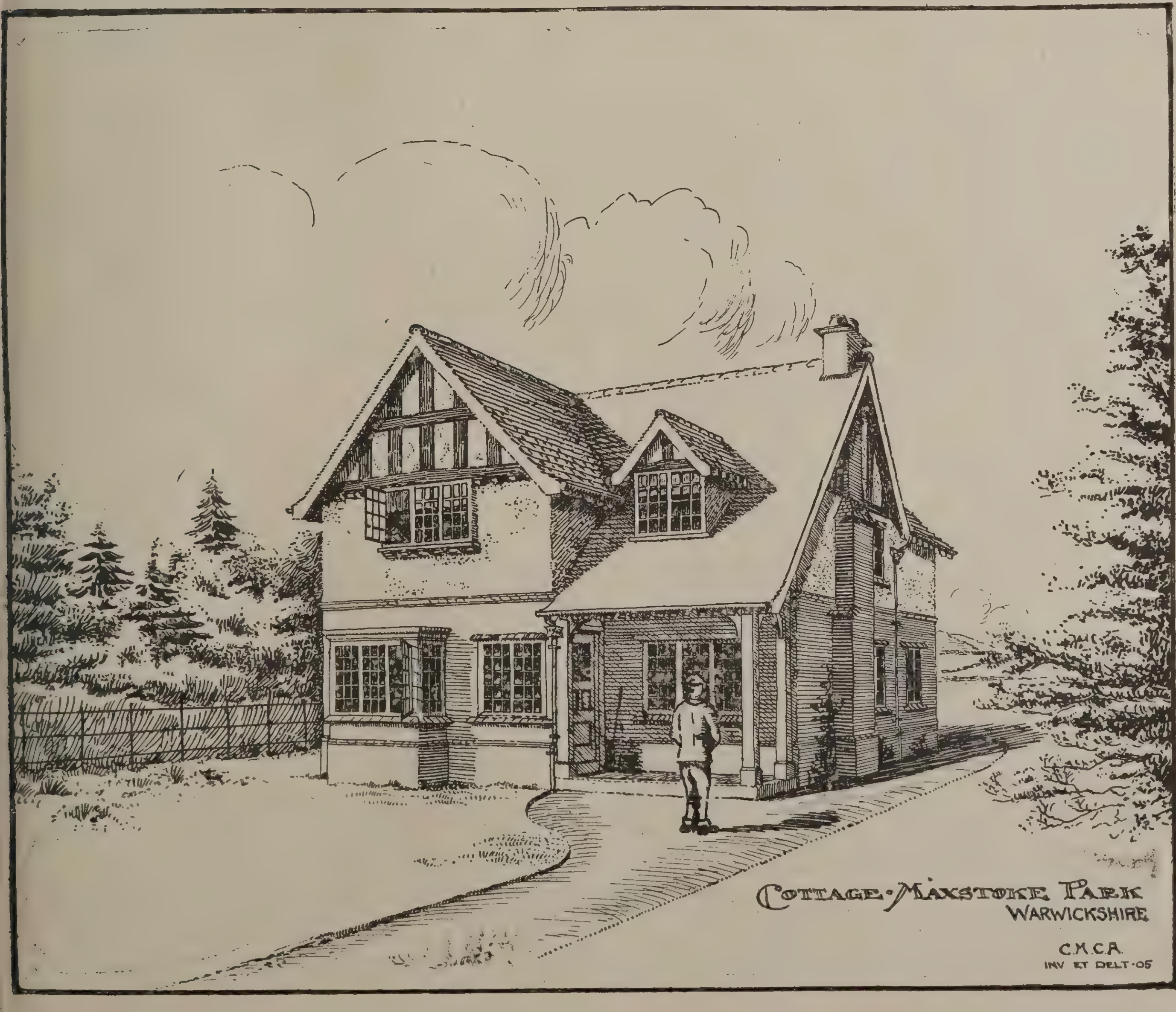
DEVON AND EXETER ARCHITECTURAL SOCIETY.

THE annual meeting of the members of the Devon an Exeter Architectural Society was held at Tiverto and attended by Mr. B. Priestley Shires (Plymouth), pres dent, Mr. Harbottle Reed (Exeter), vice-president, als Messrs. John M. Pinn, C. J. Tait, C. Cole, P. Morris, J. Lucas, O. Ralling (hon. treasurer), L. F. Tonar, F. Jerma A. Stevens, H. W. Bulley, J. H. Shearer, A. N. Tucke F. A. M. Rawes (Exeter), A. S. Parker, W. H. Mays (Pl mouth), W. H. Williams (Paignton) and Allan J. Pinn (ho secretary), Exeter.

The annual report stated that there were now members, 13 associate members and 31 associates, makin a total of 94, a net increase of 8. Several matters importance had been dealt with by the Council during t year, and the exhibitions of drawings submitted for t R.I.B.A. and studentships were much appreciated. A boo prize for measured drawings was awarded to Mr. G. Sellick, of Plymouth.

The retiring president, Mr. B. Priestley Shires, the delivered his address, in the course of which he said:— There is a laudable desire to make the profession we hav the honour to belong to worthy of the work the membe have to perform, and I dare say you have already heard or read the report of the registration committee to t R.I.B.A. of their labours, extending over fifteen meetings, i hearing evidence and views of twenty-four architects fro various parts of the country for and against registratio A step in the right direction has been unanimously arrive at in the formulation of a scheme for raising the qualificati of architects. It is proposed to revise the Charter of t R.I.B.A. and submit a Bill to Parliament, which I consid does not go far enough. What we as architects in t provinces, or at any rate the greater number of us, ha desired and expected all along is that the title of archite should be registered. At the present time anyone, ho ever limited his knowledge of draughtsmanship, constru tion or of his art generally, may call himself an archite and still his services as such are absolutely of no val whatever to the public or anybody else. However, it sufficient for me to say, registrationists and non-registr tionists have met on common ground and discussed this o problem, and for the present have agreed on certain lin to work upon together, and perhaps as years go by ne phases will present themselves, and perhaps at no dista date.


NEW LODGE·MAXSTOKE CASTLE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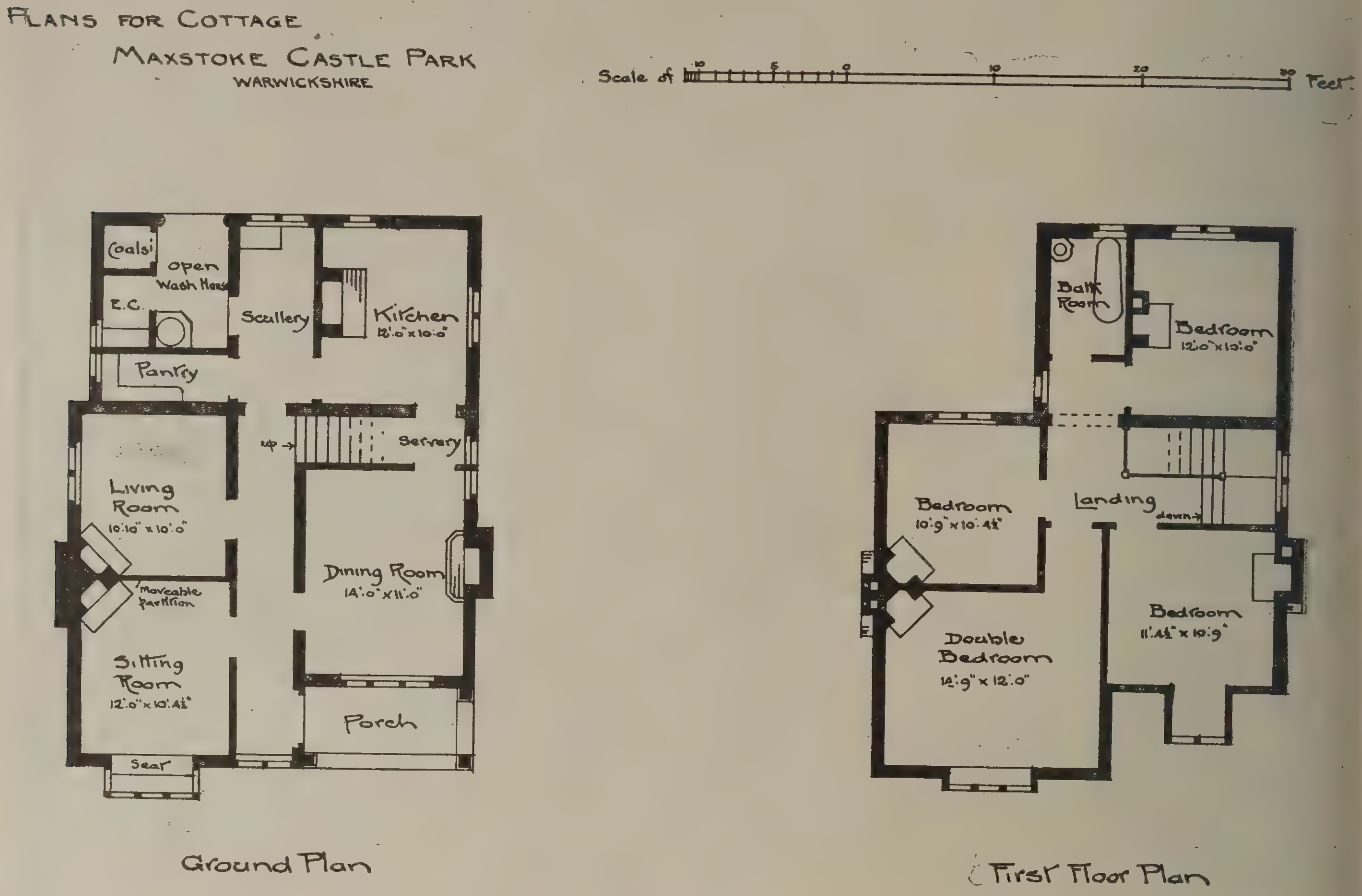

I take this, my earliest opportunity, of congratulating Mr. Paton, borough engineer, Plymouth, for his exhaustive report on building by-laws presented to the special works committee a few days ago. We all know that many reforms are urgently required to building by-laws in all parts of the country. Some three or four years ago Mr. Parker directed our attention to the matter in very able papers both to the parent Society and our Three Towns branch. Subsequently the members of the Three Towns branch formulated certain amendments. With some of them Mr. Paton found himself in agreement, and no doubt this important report will, as far as the district around Plymouth is concerned, prove of great benefit and prosperity to the town. We hope and trust that after further careful discussion of proposed new by-laws a set will be framed that the Local Government Board will find no difficulty in approving. Building by-laws should be made to suit the district in which they are to operate.

An oft expressed wish, that all buildings of a public character should be put to competition, we still as architects adhere to. I think I am right in saying that if county councils, boroughs, boards of guardians or any other promoters of architectural competitions will treat us fairly and recognise certain conditions, I am sure the most critical would not find anything more fair and more considerate as between competitor and promoter than the conditions as laid down by the R.I.B.A. They would always find some of us ready to give them the best of our ability in solving problems in the interests of the community. We do not want any wire-pulling or underhand favouritism from promoters. What I know of the architects of this province is to work in the best interests of the promoters, provided proper conditions are laid down. Our Society is founded upon good principles, to cultivate a love of architecture for its own sake, to promote a fraternal feeling amongst our members so that we mutually may appreciate and take pleasure in each other's triumphs. That our efforts are crowned with all the success we would wish, no one could say; but that they have met with some results no one who knew our profession in Plymouth or Exeter before the establishment of our Society could deny. Let us be strong to combat injustice to our brethren whenever attempted, to be aggressive even when needed, I should most strenuously advise, and to become strong, to remain just, to grow in knowledge and in honour, these are all consistent with using our strength and our knowledge in fostering the well-being of the profession so long as it remains honourable and just. So long as these are our aims and motives, so long will the Devon and Exeter Architectural Society progress in strength and in influence.

Mr. Harbottle Reed, of Exeter, was afterwards elected president. In returning thanks for the honour, he said he would endeavour to advance the interests of the Society as his predecessor and those members present who had been presidents had done before him. Mr. M. A. Bazeley, Plymouth, was elected vice-president, Mr. Allan J. Pinn, hon. secretary, Mr. C. Ralling, hon. treasurer, and Messrs. P. Morris, W. H. May and C. J. Tait were chosen to fill the vacancies in the Council.

THE DEANERY, CARLISLE.

A PAPER was read by Mr. J. H. Martindale at the spring meeting of the Cumberland and Westmorland Antiquarian Society, on "The Deanery, Carlisle." In the course of it he said, according to the *Carlisle Journal*, that the old group of buildings, rising above the ancient walls of the city, so familiar to all travellers to Scotland, with the marks of centuries stamped on the walls, and known as the Deanery, are most interesting and instructive from many points of view, and yet very little has been written about them. It is not my intention to describe the buildings from documentary sources, but simply outline to you the various changes made in them as far as I am able to read them from the history written in stones. We possess comparatively few residences, omitting episcopal houses, of the greater ecclesiastical dignitaries still occupied and used by the present holders of the original office. Of the nine English cathedrals of the old foundation only two, Wells and Exeter, possess residences of the date of Carlisle still inhabitable. In the thirteen cathedrals of the new foundation only five, viz. Canterbury, Durham, Chester, Winchester and Rochester, have portions of the building in use, while in the case of the large monastic houses the buildings are more or less in ruins, and in most cases only with the aid of Mr. St. John Hope can the outline of the plan be traced from foundations just visible above the ground. But here in Carlisle—and we must remember it was the residence of the Prior long before there was a Dean of Carlisle—we have a building which has been used by the head of the cathedral chapter for between 400 and 500 years, and it replaces still earlier buildings. The long building we see to-day is the outcome of many additions at various dates, the nucleus being the tower with wings north and south, of the latter part of the fourteenth century or early fifteenth century.

The tower has been called a "Pele" tower, and it is unnecessary to discuss here whether the term means an isolated tower or a small fortress. We all understand the type, period and characteristics of a building so designated, and in this case we have a fine and interesting example, interesting because though generally associated with military purposes it is here combined and put to ecclesiastical purposes, and thus indicates the importance and influence in civil affairs of the chief ecclesiastic of Carlisle at the period, or the dangers he was exposed to from friends across the Border. The tower does not stand square with the points of the compass; one side is parallel with and abuts on the western ramparts of the city, and for distinction and reference I will call this the west face, though not quite correct, and the front of the abbey grounds the east face. The outside dimensions are 34 feet from east to west and 32 feet from north to south, comparing very nearly with the towers of Yanwath and Hutton John in Dr. Taylor's list of manorial halls, being larger than the Strickland tower at Rose Castle, and being sixth largest in respect of total width. The west wall is 7 feet thick, the north and south walls 6 feet and the east wall 5 feet. On the west face, not quite in the centre, is a flat projection 11 feet wide and 1 foot 3 inches from face of wall, forming the base of the fine corbelled rectangular bay window of the solar or Prior's room. A similar base on east face is only 9 feet wide and 1 foot projection. That the tower always had buildings abutting on the north and south side is proved by the original label moulds for high-pitched roofs on these faces, and the position of the door and window openings, the former indicating that originally only the buildings to the north communicated with the tower. The tower consists of three storeys, and is 42 feet high to top of battlements. The original entrance was on the ground floor in the north wall, about 10 feet from the east angle; the jambs remain and indicate an opening 3 feet 6 inches wide in the clear. They are not checked or rebated for a door, but have a double splay, confirming the existence of contemporary buildings on this side of the tower. The head of the opening must have been square. No trace remains, but there is not sufficient height for an arch, and this confirms the late date of the tower; the earlier ones usually have arched doors. This opening leads into a vestibule 3 feet 9 inches square in the thickness of the north wall, having on the right hand or west side a door giving access to a straight mural stair in the thickness of the north wall. The opening on the inner face of the wall giving access to the ground floor has been much mutilated, and its form or outline cannot be made out, but no doubt it was the original entrance to the vault or crypt forming the basement or bottom storey of the tower. This apartment is 22 feet 6 inches east to west and 20 feet north to south. It has a very fine ribbed segmental vault, spanning from east to west, consisting of five double-splayed ribs 12¼ inches deep and 10½ inches wide, spaced about 2 feet apart, and two wall ribs. The height at the springing is 3 feet 6 inches and at the crown 8 feet 3 inches.

The whole is of very fine masonry and similar in character to the magnificent ribs in the vault of the Captain's Lodging at Bamburgh Castle and also to the Dacre Tower at Naworth Castle. This vault was originally lighted by a single loop at the east end of the south side, where is now the door giving access to the kitchen wing, the only remains of it being in the head of this inserted door. That it was outside the external wall of buildings on the south side is proved by the roof lines. The two loops on the east side were no doubt inserted when the building on this side was connected to the Prior's apartments by Dean Smith at the end of the seventeenth century, or earlier in the sixteenth century at the change in the foundation by Henry VIII., and the original loop converted into a door. The four loops in the west wall are modern, and were inserted twenty years ago when certain division walls were removed and the apartment restored to its original size. There is no indication of any other opening into this apartment on this floor. The stair to the solar or first floor, mentioned before, is 3 feet 2 inches wide, and the steps are not in original position, but were moved by Dean Smith further west. Originally access was gained to the rooms in the building to the north of the tower, exactly the reverse of the present landing, by an opening which remains but is boarded up, near the top of the mural stair, which continued up, turning the north-west angle, and the solar was entered through a mural chamber now cut down and converted into a closet.

Entering the solar, we have a very fine room about 22 feet by 20 feet, with a recessed window of three lights 6 feet deep in the west and a two-light 4 feet deep in the east wall. Both have fine-ribbed rear arches the full thickness of the recesses. The heads of the lights have five cusps. The ceiling of this apartment is the original oak one, with two moulded main beams running north and south and moulded joists between, and the whole was magnificently decorated by Prior Senhouse in the beginning of the sixteenth century. On the south side of the room is a fine redstone open fireplace, 6 feet 9½ inches wide, with a flat jointed head. The jambs and head are finely moulded with bold round and hollow and casement mould on the outer edge of the jambs; the shelf is modern. The room was panelled in the seventeenth century, probably by Dean Smith, but the panelling over the fireplace has been removed, and the wall-surface shows a fine ashlar walling with a relieving arch over the lintel of the fireplace. Turning now to the buildings on the south side of the tower, we have a block extending south for a distance of about 42 feet to the present kitchen fireplace. This is a fine old wall 6 feet thick, but of later date than the building on the other side. The stone mantels are modern or have been renewed, but on the east side of the fireplace is a curious arch and doorway with remains of a locker and loop in the thickness of the wall, and is to my mind the ancient entrance to this kitchen from the conventual buildings, and earlier than any connections to the tower. The buildings on this side of the tower must have been originally narrower than the hall on the north side, and had no connection on the ground floor, the present access from the crypt being, as mentioned before, of Dean Smith's date, and the same may be said of the opening for the connection on each floor.

The Court Leet Rolls of Carlisle have the following item, which seems to indicate that Dean Smith was not quite up to date with the then sanitary authority:—"We present do'tes Thos. Smith deane of Carlisle for his dung hill in the highwaye under ye wall of ye city and we amercye him vi.s. viii.d." The old garde robes were on this west side of the tower. There are remains of old walls beyond the buildings I have described, both north and south. It seems to me that originally the purely domestic apartments of the Prior were confined to the tower and buildings to the north. This would give him no kitchen, but under the rule of the Augustinian Order he would use the common refectory. Then when King Henry VIII. converted the cathedral body from regular to secular, the Prior, now Dean, required a kitchen and suitable offices, and at once opened out communication with the old kitchen of the priory on the south of the tower. This corresponds fairly with the date from the evidences in the building. The Chancellor says the chapter dined in common. As to the door from the mural chamber on the first floor of the tower, if this is earlier than the seventeenth century it only seems to confirm the Prior lived in common with the brethren of the Order, and that it was his private access to the refectory and conventual buildings. I have endeavoured to read you the history of the Deanery from its walls, and perhaps our President will now take up and compare and correct my reading in his kindly way from documentary history. The history I have read to you speaks well for our clergy, who for over 400 years have, out of their own pockets, maintained and improved buildings, in which they only possess a life interest, without stint, and Dean Ridgeway is at once following in the steps of his twenty-nine predecessors, and to bring up the Deanery to the go-ahead date of Carlisle has installed the electric light and restored the panelling in the Prior's room to its pristine state, for in burning off the nineteenth-century oak graining the original painting was found to have been white.

The Next Ordinary General Meeting of the Society of Architects will be held on April 26 at 8 p.m., when a paper on "Shakespeare and Old London" will be read by Mr. T. R. Croger.

NOTES AND COMMENTS.

To-morrow (Saturday) M. Rodin's large figure, *Le Penseur*, will be unveiled in Paris. It stands within the railings in front of the Panthéon. The work was acquired by public subscription, and has been presented to the State. The figure of a nude man who appears to be puzzled could be set up in any part of the revolutionary city with more or less appropriateness. Changes have occurred, and it is easy to imagine a thinker asking himself what advantages have followed. But the Panthéon has an especial fitness for such a figure. The site was occupied by an abbey church dedicated to Sainte Geneviève. It was arranged to erect a new church, and in 1764 Louis XV. laid the first stone. Soufflot was the architect. But the building was hardly completed when the Revolution burst forth, and one of the first acts of the Assembly was to decree that the church should be for the future regarded as a Panthéon which would serve as a memorial of Frenchmen, and the inscription was placed on the front, "Aux Grands Hommes la Patrie Reconnaissante." After the revolutionaries and the Empire had passed away another inscription was set up, announcing that Louis XVIII. had restored the building as a place of worship. In 1830 it again became the Panthéon. In 1851 it was restored to ecclesiastical use, and under the present Republic it is once more a Panthéon. Not many buildings have been subjected to similar alternations, and the aspect of the interior still suggests the dual purposes it has served. The wall-paintings recall the history of Sainte Geneviève, St. Denis, St. Louis, Joan of Arc, while the pendentives of the dome have paintings which recall the deeds of the first Napoleon. There are a few memorials of citizens, but the building itself is more impressive than anything in it. We may imagine the *Penseur* is asking himself why architecture should dominate all other arts.

With the exception of the two cathedrals and parts of one or two churches, Dublin has nothing to show which would suggest the character of its Mediæval buildings. It has long been known, however, that a portion of the ancient abbey of St. Mary still existed. Mary Street, which recalls the buildings, is in a part of the city closely covered with houses, and, of course, overcrowded. The alterations which have taken place in a warehouse quite recently have demonstrated that the part of the abbey which has survived is of greater archæological importance than had been imagined. It is, indeed, supposed that nearly the whole of the chapter-house still remains. It is divided horizontally into two parts, which are used mainly as stores. But although the relic is of exceeding interest, it is difficult to know how it can be preserved. The purchase of the chapter-house is out of the question. All that is feasible is to bring it under the operation of the Irish Monuments Act, and to give it in charge of the Commissioners of Public Works. But for that purpose it would be necessary to obtain a surrender on the part of the owners, and that is not to be expected with business premises, which although ancient are still useful.

We know from Cæsar that the Britons in his time possessed horses and were able to employ them with skill to draw the war chariots. It may be assumed horses were used in Ireland about the same time. The early laws recognise a distinction between horses used in agriculture and those for riding. Recently a crannog in the county of Antrim was explored by Messrs. Knowles and Coffey, and they found in it animal remains, including the skull of a horse, which is declared to be the finest in Europe. Dr. Scharff says it is of an Oriental type, and belonged to an animal about twelve hands high. The horses which we see in the Parthenon frieze are of small stature, and those of the Normans in the Bayeux tapestry are likewise small. Richard Doyle, when he caricatured that Norman work at a time when there was a talk of a new invasion of England, represented some of the French soldiers carrying their steeds under their arms with comparative ease. The Antrim crannog also yielded implements of flint and stone, a very fine iron sword, some bronze brooches and pins, some beautifully ornamented leather shoes.

The first volume has appeared, through Messrs. Constable & Co., Ltd., of "The Deinhardt-Schlomann Series of Technical Dictionaries in Six Languages." Business is now becoming of a more international character than formerly, and, as most students are aware, the best ordinary dictionaries ignore the technical terms which relate to the details of machinery, plants, metallurgy, building, &c. The first volume relates to the machine-elements and tools for working in metal and wood. The plan adopted is excellent; a vast number of small diagrams are introduced in order that the reader may have no doubt about the tool or detail which is described in the letterpress. This will obviate errors in descriptions or orders. The different sections will be prepared by specialists, and hence it is the terms which are of use in workshops, but which are unknown to lexicographers, find a place. The languages employed are English, German, French, Italian, Spanish and Russian, and the volumes are prepared in a handy form.

ILLUSTRATIONS.

HANOVER HOUSE, ST. JOHN'S WOOD, N.W.

WOOLWICH TOWN HALL: INTERIOR OF THE COUNCIL CHAMBER.

This chamber is designed in the form of a Greek cross, the dome at the crossing being carried on four main vaults spanning the arms of the cross. The interior of the dome is enriched with modelled plasterwork, and the panelling and furnishing of the room are in wainscot oak. The members' seats range round the room in the form of a half-circle. The public are accommodated in a raised gallery following the curved line of the seating, the upper panels of the gallery front being enriched with oak carving of different designs, strengthening the main architectural line which emphasises the radiating form of the seating. The room is entered through two doors leading from the great entrance hall, between which is the daïs on which the mayor presides at the meetings of the Council. On this daïs is placed the mayor's table and chair, with the town clerk's seat and the deputy mayor's seat on either side. The fitting-up of this room is an exhibition of craftsmanship in its highest form, the oak carving of the gallery front, the members' benches, and particularly the mayor's chair, being of an excellence that will repay examination. The room is lighted by stained-glass windows on three sides, the centre one showing the present Royal Arms, the other two representing the great Tudor sovereigns, Henry VIII. and Elizabeth, under whom Woolwich assumed its first importance as the mother dock of England. Bluff King Hal is depicted in characteristic attitude with his famous ship the *Harry Grace à Dieu*, commonly called the *Great Harry*, in a medallion to the left, the inscription on which reads as follows :—"The *Great Harry* was built at Woolwich in 1512, and conveyed King Henry VIII. to the Field of the Cloth of Gold. She was burnt here by negligence and lack of foresight in 1553." The side medallions of the Queen Elizabeth window have in like manner a representation of her ship the *Elizabeth*, and the inscription here reads :—"The *Elizabeth* was launched at Woolwich on July 3, 1559, in the presence of Queen Elizabeth. Was afterwards commanded by Sir Robert Southwell against the Armada." The architect is Mr. A. Brumwell Thomas.

CATHEDRAL SERIES.—TRURO: BISHOP'S THRONE AND SOUTH SIDE OF CHOIR AND NAVE.

YESTER, GIFFORD, N.B.: NORTH FRONT.

WINCHESTER CATHEDRAL.

THE following is the report on the repairs to March 25, 1906 :—

14 Buckingham Street, Strand, London, W.C.

To the Very Rev. the Dean of Winchester.

Dear Mr. Dean,—I send, as I promised, a report on the work done up to the present date to the south and north sides and the east end of the south aisle of Bishop de Lucy's building.

Shoring—Bonding.

In August last I gave instructions for shoring the greater part of the south side, and for bonding across the cracks in that wall with long blocks of hard Yorkshire stone. These were well bonded and grouted with the Greathead machine which we have been able to borrow through the kindness of Mr. Fox, the civil engineer.

Tie-rods.

This has now been done effectually from the ground level up to the gallery passage that pierces the wall at the window level. The repair below awaits the underpinning, and that above the insertion of the iron ties. These are now ordered and are being made; the walls and piers are nearly all pierced for the passage of the ties, and I hope before the end of April they will be all fixed and grouted in and tightly screwed up. When this is done I propose to complete the repair of the upper parts of this wall, and also of the corresponding north wall, which proves to be cracked almost as badly as the south. When these side walls are made solid by the bonding of the cracks and the cross ties of steel rods, we shall be better able to deal with the underpinning.

The Chantries.

In order to put proper protecting casings over the Beaufort and Waynflete chantries I have been obliged to remove their top pinnacles, which will be taken care of till the time comes for replacing them. I may mention that they were nearly all quite loose, and, so far as I have observed, they appear all to be of modern work.

The Vaulting of North Aisle.

On February 26 last alarm was caused by the fall of one of the ashlar filling-in stones of the north aisle vault near the Waynflete chantry. The published reports exaggerated the accident, but, though not in itself so serious as was represented, it was symptomatic of a dangerous state of that vault in many places. The scaffolding which has since been erected affords a closer view of the vault and reveals serious defects. Part of it will need taking out and resetting, and the whole will require grouting and pinning up. I have, in consequence of this accident, stopped the piercing of the north wall, as the fall of this stone was caused, no doubt, by the jarring of this operation, which might have brought more of the vaulting down after it. I am now having the vault in this bay thoroughly centred, and have put shoring to the north wall like that on the south side. As soon as this is complete the iron ties will be inserted and the bonding of the cracks completed on this side like the other.

South Aisle Vault.

The vault of the south aisle is also now being centred and prepared for resetting the dangerous parts, much of which is really only held up by being bolted to timbering in the roof space above.

Underpinning in Crypt of Lady Chapel.

In starting the underpinning, I decided, while exploring the foundation of the main walls, to begin with the vaulting under the lady chapel, which had been well propped with centring. In my first report I gave it as my opinion that the mischief was due to the sinking of the central pillar. On removing this, after securing the superstructure by a collar round the capital supported on shores, I found my supposition was correct. A large square stone on which the column stood was broken and tilted up at the corners, and below was the head of a 15-inch timber pile which was so rotten that it could be cut with a spade like cheese. This column is now rebuilt on a new foundation of cement, concrete and brick about 16 feet deep, resting on the solid gravel. The whole of the groining of this crypt was grouted with cement and pointed, and the centring is now removed. The second column is now being collared and shored in order to be treated like the first.

Underpinning of Main Walls.

In my first report I mentioned that in the trial hole under the south wall made at my first visit the end of a timber projected from under the foundation, and I suggested this might be part of a layer of baulks or rough trees laid continuously. Further exploration proves that this is the case.

Timber in Foundation.

The whole of this part of the building seems to stand on two layers of trees laid across one another in a mass of loose chalk; many of these are quite soft and decayed, but others are still sound. The builders seem to have gone down with their foundation to the water level, and then, not knowing how to deal with the difficulty, to have done the best they could with this timber layer. Had this, as was done in some similar instances, been made a good deal wider than the walls, so as to increase the supporting area, it might have been effectual. As it is the whole has been crushed down into the soft ground overlying the peat, and the result is the settlements now troubling us.

Eastward Slip of the Church.

The nature of the foundation is worse the further it goes eastward. The ground there seems to have been a bog, for there is a layer of peat 5 feet thick above the gravel bed, which is the first hard bottom. In consequence the whole building has slipped eastwards, parting at the great cracks which are now exposed in the side walls.

Underpinning now in Progress at the East End.

I therefore decided, after conferring with you and the chapter in November last, to begin the underpinning at the east end of the building—that is, with the east wall of Bishop Langton's chapel. By putting in a very solid foundation there, resting on the hard gravel bed, I proposed to arrest this tendency to slip eastwards, and having done that, to work from this fixed base along the south wall westwards till the whole of this side of the church rested on the firm gravel bed some 29 feet below the floor of the presbytery, 21 feet below ground and 14 feet below the present level of the water.

Water Difficulty.

It was not, however, till the layer of peat was pierced that we tapped the water, which was sealed down by this impervious layer. On breaking through this, however, we found the water rushed up from the gravel bed below to the height I have mentioned, which is no doubt that of the river. It was extremely difficult to know how to put in 12 feet of building below the old foundations under these conditions; as at first I did not venture on pumping, to the danger of which I was, of course, fully alive. An attempt to dredge out the peat under water from below these thick walls was quite unsuccessful. Finally, observing that the water came entirely from below the peat out of the clean gravel, and that it was as clear as crystal, I tried pumping experimentally. The danger of pumping of course consists in the removal of sand and soil, which allows subsidence of the stratum, and as nothing of this sort came away with the water I was reassured. Hand pumping was quite unable to cope with the inrush, and our first piece of underpinning was not so successful as I had desired. A steam pump has therefore been purchased, which is powerful enough to reduce the depth of water in our drifts to 2 feet. The peat is then scooped out, cement concrete in bags laid on the gravel, above which day by day fresh layers of cement concrete are laid, and finally the old foundation is underpinned with brickwork in cement. When it is remembered that the whole of this work has to be done below the natural water level it may be understood that the task is no easy one. About two-thirds of the east wall of Bishop Langton's chapel has already been successfully underpinned with cement, concrete and brickwork resting on the solid gravel, affording a good support to this end wall. The rest is in progress, and when this end is made secure we shall work from it along the side wall westward, when the difficulty will not be so serious.

I fear it will be necessary to treat the north side of the building in the same way, but the gravel will, I believe, be found at a much less depth from the surface. As some public apprehension was excited by reports of what was being done, I asked Mr. Francis Fox, the civil engineer, whose opinion is probably as good as any you could possibly obtain, to visit the cathedral with me and report to you what he thought of the methods that had been adopted. This he has been kind enough to do, and he is sending you a separate report. I need not say how much I am indebted to him for the trouble he has so kindly taken, and for the advice and help he has afforded me. It is a relief to my mind to find that he generally agrees with the methods that I have pursued, and is hopeful as to the result.

I am, dear Mr. Dean, yours very truly,

Thos: G. Jackson, R.A.

P.S.—As a statement has been made that fresh cracks have appeared in the walls since pumping has been in use, I may add that no movement whatever in the walls has been observed.

Supplementary Report.

April 7, 1906.

Dear Mr. Dean,—From my last report you will have learnt that the greater part of the east end of the south presbytery aisle and Bishop Langton's chapel had been successfully underpinned from the solid gravel bed 21 feet below ground, and I described the method which had been employed.

The next piece of underpinning involved fresh difficulties, as we found a thin layer of chalky matter overlying the gravel between it and the peat. As this would have been drawn by the pumping, I stopped the pump at once. To get over this new difficulty I gladly adopted the suggestion of Mr. Fox to employ divers. By his means I have been able to engage the services of two men who have had experience in laying foundations of bridges under water, and yesterday they finished taking out the peat and laying the first stratum of our new foundation under water. This will seal down the spring, and the surface water can be dealt with by the pump and the foundation completed by the ordinary workmen. To avoid delay which might be dangerous I have arranged for the work to go on during the Easter holidays.

The divers have left and will return at intervals as each piece of underpinning is ready for them. We have now, I hope, solved all the constructive problems that have hitherto made our work rather experimental, and we shall now be able to make more rapid progress.—Yours very truly,

T. G. Jackson.

ROYAL GLASGOW INSTITUTE.

The architectural drawings are placed this year in the entrance corridor, not a bad situation, says the *Glasgow Herald*, so far as light is concerned, and one that insures notice from every visitor. At the same time, it is a little ominous; the enlarged premises are apparently proving inadequate, and the drawings are the first to feel the pressure. One is glad to note, however, that the ousting from the upper gallery is not to make room for pictures, but for an unusually large collection of sculpture.

The architectural exhibit is rather mediocre. It is not even very representative of local men—for some of the foremost show nothing—and only a few Edinburgh and English architects contribute, while in importance not one of the examples is of first rank in merit or magnitude. A full half are shown by photographs; of the remainder two-thirds are pen-and-ink drawings in perspective, the others are in colour or monochrome wash.

There is a fair show of ecclesiastical work. One of the most important examples is the fine church of "St. James, Kilmalcolm," by Mr. Leiper. It is a Gothic design, illustrated by two photos of the exterior—where the chief feature is the tower, an agreeable variant on the ordinary steeple—and four interior views, showing stonewalling and columns, with wood finishings in keeping. With this may be compared Mr. Cullen's "Dundyvan Church, Coatbridge," an ink drawing, with stone piers but plastered walls, of orthodox three-aisled plan, with transepts, the aisles being used for passages only. Note may be taken of the arrangement for the choir, who are placed in a gallery alongside of the organ, which faces the chancel, but has this choir space behind as well, thus avoiding an objectionable recess or chamber. Mr. Cullen also sends a pen drawing of a church at Motherwell, "St. Andrew's," showing a tower with saddle-back roof of Scottish type. A large interior, a pen-and-ink drawing of the "Catholic Apostolic Church," Parliamentary Road, by Messrs. Salmon, Son & Gillespie, does not make obvious what is the new extension, which, presumably, is the north aisle. Pen drawings of "Bridgeton Baptist Church," by Messrs. Miller & Black, of "Ruchill U.F.," by Mr. Neil Duff, and photographs of a most attractive small "Wesleyan Church, Girvan," by Messrs. Watson & Salmond, are in a late phase of the Gothic style favoured by all the examples exhibited. "Iona Cathedral," a pen drawing by Messrs. Honeyman, Keppie & Macintosh, is a tiny structure; the view shows the nave walls carried up and a roof added; the west window is new.

The largest drawing is in pen and ink, one of a competitive set, by Miss Campbell Douglas and A. N. Paterson, for a "London Hospital." The view given does not so well illustrate the wards as the large administrative and dispensary blocks. The chief architectural feature is the water towers, of brick. Our own new "Maternity Hospital," by Mr. Robert A. Brydon, has no plan to explain the arrangement, and externally is quite uninteresting. One of our Board schools—Scotland Street—by Messrs. Honeyman, Keppie & Macintosh, is distinctly away from the commonplace. Two flanking round towers make up a good composition, and window space is abundant. A key plan would have shown how the towers were utilised. Other schools, happily less original, are "Dalmuir," by Mr. Andrews, and "Bowling," by Messrs. Stewart & Paterson.

Of city street architecture, about the only example is the "British Linen Bank," Queen Street, by Messrs. Salmon, Son & Gillespie. Photographs show how very happily a couple of storeys have been added, to the distinct improvement of the building. Another bank is in Kent, a coloured drawing by Mr. Ernest Newton, in brick, with oriels partly lead covered. It is a very characteristic specimen of this architect's ability. New Metropolitan Offices for the "Scottish Temperance Assurance," by Mr. Fred Rowntree, has a curved façade—in plan—and there is moderation in the shopman's claim for glass. By the same hand is a house at Reigate, in brick, very homelike and attractive. Both are pen drawings. "The Wesleyan Methodist Halls," Paisley, a pen drawing by Messrs. Watson & Salmond, has to contend with shop-front difficulty. The longer façade, that includes the hall proper, is free. The design is dignified and effective.

The "Institute of Public Health, Edinburgh University," a wash drawing by Messrs. Leadbetter & Fairley, is good; and by the same architects, "Carlung," a clever enlargement of a mansion, is in excellent taste. A "City Hall Front" (Perth?), an ink drawing by Messrs. Walker & Ramsay, has twin towers, whose upper parts rather suggest bandstands. "Dunoon Pavilion," a pen drawing by Mr. Wm. Fraser, has a quite appropriate treatment, being gay with balconies, towers and flag-poles. An illuminated pencil-sketch design for a like building at Ayr is by Messrs. Baptie, Bonn & H. Hamilton Scott. Designs for lending libraries at various places are shown, whether only intended or actual is not stated. Strangely enough, only one of over three-score competitive designs for our Mitchell is shown, namely, that by Mr. H. K. Bromhead. The amended design that is to be built one might have expected to see. The "Hotel at Arrochar," by A. N. Paterson, with rough-cast walls, is finely situated on the loch side, and the photo makes a beautiful picture. Houses at "Winchfield" and "Wokingham" in ink and in colour, by Ernest Newton, are both excellent, if the first does err in over-simplicity—*e.g.* only a trellis at the doorway. "Red Tower, Helensburgh," by Mr. Leiper, is a large mansion and a characteristic example of the architect's work. It is illustrated by six photographs. Mr. T. W. Deas shows "Kinfauns Castle: the Staircase," with some quaint carvings in oak. Credit is given on the frame of photographs to the several craftsmen employed. Mr. Deas has also a small "House at Corstorphine," rather interesting. A photo of a nice plaster overmantel is by Mr. Morris. Sketches or drawings of interiors sometimes show apartments to more advantage than do photographs. This is seen in the slightly-tinted sketches of a house in "Hatfield Drive," by Messrs. Stewart & Paterson, and in the "Drawing-room, Jerviston," by Mr. Cullen, jun. "Redholme," the house of Sir John Ure Primrose, Messrs. Burnet, Boston & Carruther, is illustrated by a set of photographs. Two good coloured drawings of a "House at Troon" show rough-cast walls with some interesting work at doorways. "Dansky," Mr. James K. Hunter, is a photo of a large mansion even more completely rough-cast than the preceding. Photos, too, show the handsome gateway and lodge to Tulliallan Castle, richly treated in seventeenth-century Scottish fashion by Messrs. Watson & Salmond. A design for a Victoria monument, a wash drawing by F. E. Schenck, in general form an obelisk with figures at three stages, is of considerable merit, though the pediments overhang the lowest group rather threateningly. There are various fairly good designs for stained glass by Edgar and Hall and Bryson. Messrs. Guthrie in their sketches show nice colouring, as do also Messrs. Stephen Adam & Webster. Another is the "Hall Window," M'Lellan & Co. It is rather more of a transparency than a glass window, and is shown in rather dull colouring.

HORIZONTAL CURVES IN AMERICAN BUILDINGS.

By W. H. Goodyear.

As the construction of the great flight of steps in front of the central portico of the Brooklyn Museum begins to rise above the earth's surface, it may be observed by careful inspection that the steps are built in delicate curves rising from each end toward the centre. The use of such a refinement is so unusual in modern architecture as to call for a mention of other known instances.

Mr. C. H. Blackall, of Boston, was apparently the first American architect to employ this device of horizontal curves, which occur on a warehouse in Purchase Street, Boston, in a long stone belt which is immediately over a row of columns in the first storey. In the construction of Tremont Temple in Boston horizontal curves were planned by the same architect, but the façade was in terra-cotta, and the expense of bevelling the separate pieces to form the line of curve caused the abandonment of the plan.

Curves similar to those seen in front of the Brooklyn Museum portico have been employed in the steps leading up to the front portico of the Library of Columbia University, and also in the front platform of University Hall, in Columbia University. Both these buildings were designed by Messrs. McKim, Mead & White, who are the architects of the Brooklyn Museum.

Aside from the Albright Art Gallery in Buffalo, which is reported to have introduced the Greek refinements, it is doubtful that any other instances can be offered of the use of horizontal curves in modern architecture, and all of the instances quoted are well understood to be incipient revivals or imitations of an ancient Greek practice. This practice was forgotten in later times, and at the opening of the nineteenth century it was wholly unknown to modern students that it ever existed. It was rediscovered by an English architect, Mr. John Pennethorne, who not only discovered the curves in site, as found in the Parthenon at Athens, but also called attention to a passage in an ancient Roman authority on architecture (Vitruvius) which laid down rules for the construction of such curves. Vitruvius had been studied for 300 years before the time of Mr. Pennethorne, but no one had previously realised the significance of the given passage or had taken the trouble to test its truth by an examination of the original buildings.

At the present time the facts are well admitted, but the explanations are by no means so well understood by the world at large. There is a general and wide-spread impression that the Greek curves were intended to produce the appearance of straight lines by correcting an optical effect of sagging downward, which is supposed by this explanation to be a general effect in long horizontal lines. Such a suggestion regarding the sagging effect as peculiar to all horizontal lines has never been offered by the authorities on optics who have published accounts of the Greek curves. Nor has it ever been offered by any of the authorities who have published investigations of the original buildings. The statement appears to originate in a misapprehension of what certain writers have said as to a sagging effect of certain horizontal lines under certain peculiar conditions, and even these explanations have been shown to be unsatisfactory and inconclusive explanations of the Greek curves.

The true explanation is undoubtedly that which is offered by the highest and most recent American authority on the subject, "The Dictionary of Architecture," edited by Dr. Russell Sturgis, and published by Macmillan. The article on Refinements in Design, written by Mr. G. L. Heins, the official architect for the State of New York, says :—"If, however, we can give a satisfactory reason why a column should have an entasis, that same reason will suffice to account for all the other refinements as yet known to exist, at least in Classical work. The only satisfactory explanation of them is that the entasis (vertical curves in he columns) and other such refinements were introduced from artistic preference, from delight in the abstract beauty which results in their use."

For several reasons the curves employed in the steps of he Brooklyn Museum building have no very close relation o those of Greek architecture. There is no known example of ancient Greek curves excepting in the emples, and here they always occur in the entablature that is, in the upper horizontal lines) as well as in the teps and platforms. Moreover, the curves of the platform are not confined to the exterior platform, but hey belong to a system of construction by which the entire platform of the building, including the interior, was built in the shape of a very flat spherical surface. An extremely important point is that the curves were only one of many refinements, all of which appear to have had equal importance, although the curves have been more frequently mentioned and quoted by modern writers because the modern imagination seems to have been especially impressed by them. Moreover, the erroneous but plausible explanation that the curves were intended to make the lines look straight has had great attraction for the modern public, which naturally thinks that the lines ought to be straight, and which consequently thinks it can comprehend an effort to make them look so. The other refinements, of equal importance with the curves, all start from the one principle that every detail of a Greek temple was delicately asymmetric. Thus the columns and capitals are all of delicately irregular sizes, the spacings and other apparently corresponding measurements are all delicately varied and irregular. The apparently perpendicular lines are all delicately out of perpendicular. None of these variations are consciously perceived by the eye, but they all contribute to its enjoyment and pleasure by adding an element of life, which is possibly physiologically due to optical vibration, but which is, at all events, akin to the sentiment which leads us to prefer Oriental rugs and hand-made lace to the products of machinery. The sentiment which prefers originals to copies in all classes of materials is a closely related and probably identical feeling.

In spite of the vast gulf which thus separates the modern incipient revival of Greek curves from those of the original buildings, which belong to a larger complex of related facts, they have great interest as indicating an interest in architectural refinements which must in time prove of considerable value to modern art appreciation. The asymmetric refinements of Mediæval architecture are in some cases more easily revived than those of the Greeks, as attested by the façade of a new hotel on the Lido at Venice by the architect Sardi, which does not differ in its external character and appearance from an ordinary modern building, excepting in the fact that its surfaces and openings of doors and windows are out of exact symmetry, but for that very reason really more utilitarian. The entire country house and villa architecture of the United States has in recent years shown similar tendencies. The truest independence is always nearest to the truest art, and exactly where copies of ancient buildings are not in question it is most likely that their true spirit will be most nearly revived.

RHIND LECTURES.

The last of the series of Rhind Lectures on "Roman Britain" was given by Dr. F. Haverfield, of Christ Church, Oxford, in Edinburgh on the 10th inst. The lecturer dealt specially with the study of Roman Britain, attention being directed mainly to the antiquaries of the twelfth century and of the sixteenth, to the period of Horsley, to the archæological uprising about 1848, and to the condition of the study at present. The study of Roman Britain, the lecturer said, embraced four periods, the first of which was the Norman Conquest. The period which opened in 1120 continued with slight alterations of knowledge and interest all through the Middle Ages, and the second period began with the Renaissance, with its revival of states of all sorts. In speaking of this period the lecturer pointed out that the true Watling Street ran across England, corresponding exactly with the Roman Road from London to the neighbourhood of Shrewsbury, and possibly from there a little further on. There was another Watling Street, starting from York through Durham, and which, somewhere in Durham or Northumberland, obtained that name. It crossed the Cheviots and passed close to Jedburgh and Melrose, and then proceeded across country to Inveresk and Cramond. Deer Street was the proper name; that Watling Street was a modern invention was quite certain. In the third period, which dated from the commencement of the eighteenth century, specialisation began to appear, and the idea took firm root that it was possible and desirable to deal with Roman Britain as a subject of its own. That period went on for about 100 years, and a distinct advance was made towards the fourth period—that which immediately succeeded the Reform Bill. It had been left to a few societies and museums to keep alive the scientific and continuous study of the subject. Otherwise, he was afraid, archæology had become a mere form of picnicking. Universities probably, if they had the money, and many had, could do a good deal in respect to the training of men and making them competent to excavate; and the training, it seemed to him, might frequently be carried out actually on the field of excavation. On the motion of Dr. Christison, the lecturer was cordially thanked. The course, Dr. Christison said, had been both interesting and instructive, and not only had Dr. Haverfield shown himself a master of his subject but a master of the art of delivery.

THE PALACES OF THE JAMESES.

TO those at a loss to know how best to spend a short holiday I strongly recommend, says a correspondent of the *Scotsman*, a tour through the palaces of the Jameses. Everybody who has the opportunity visits the French castles on the Loire, and a rich reward they get in beauty and historic interest; but why should those who do not have that opportunity not make a tour through the beautiful palaces at their own door?

The fabric of our palaces may not be so rich architecturally as their French counterparts, but we have at least the advantage of knowing their history better and feeling in them the pride of ownership. We may visit each separately as occasion offers and examine it in detail, but the pleasure produced by a connected tour with these palaces as our stopping-places is something quite different.

To get into the proper frame of mind for the thorough enjoyment of such a tour we, in Edinburgh, cannot do better than begin by climbing the ramparts of the castle and looking at the well-known view before us. What we see is peculiarly the Jameses' Scotland. Down to the right lies Holyrood; the splendid estuary before us winds up to Stirling, while midway between is Linlithgow. Over there, among the Fife woods and cornfields, are Dunfermline and Falkland, and we know that behind those far-away hills we shall find Perth. Touraine cannot furnish a vantage-point like it, and the valley of the Loire knows no such scenery. It matters not which James built which palace. They were all built or added to by one or other of them. James after James was born in one or other of these palaces, and spent his eventful life between them, imprisoned here, escaping there, hunting and hearkening to music in one, marrying and holding high revel in another, deliberating gravely on affairs of State in a third. Only their deaths are not associated with them, for the Jameses were not given to dying in their beds. Of all the five in the direct line, and their daughter Mary, only one died at Falkland a natural death, if dying of a broken heart may be so called. Was ever such a record in any country?

The time of the great sieges and captures was over before the Jameses came to Edinburgh Castle, but a story from their time haunts the memory there. It is the story of the banquet given to the Douglases by the Chancellor and governor of the young King James II., which terminated by the introduction of the fatal bull's head. One can hear in imagination the "plaints cryes and teares" of the young king when the terrible sentence presaged by the horrible dish was carried out on the Douglases and their faithful friend. Would that, grown older, he had remembered his childish tears and cries, and stayed his hand when another Douglas, trusting to his honour, stood within his power in Stirling Castle. He would have spared the greatest blot on his short and chivalrous career. The memories called up by existing Holyrood are also deeds of violence. Holyrood has suffered almost more than any of the Stuart palaces. The royal dead who sleep in the abbey church were powerless to check the fire or stay the hand of the destroyer. Gone is every vestige of the great monastic house which so often entertained kingly guests, of the banqueting-hall where James II. held his wondrous wedding feast, and of the chambers "hang'd of red and of blue" which James IV. furnished for his English bride. All that remains is the setting of the tragedy of Rizzio, and that deed of horror can be only too easily conjured up on the spot.

We are quite glad to be out on the road to Linlithgow, passing in imagination through the forest of Drumsheugh, meeting perhaps a jovial hunting party, or a group of nobles hotly riding with a young king in their midst, whom they had wrested from a rival group, who as hotly pursue behind. These wrestings of the young king by one faction from another were not infrequent, as most of the Stuart reigns began with a minority, and many a stern chase has been led over the roads connecting the castles. Poor passive James III. was but as a pawn in a game. Persuaded by a Boyd to break away from a hunt while at Linlithgow, he was turned back by a Kennedy, recaptured by a Boyd and hurried to Edinburgh. But James V. was made of sterner stuff, and took his destiny into his own hands when he broke away from Falkland in the disguise of a groom and rode hard to Stirling, attended only by Jockie Hart and one other boy. Round Linlithgow less sinister memories cling; with Falkland it was reserved as the pleasure house of the Stuarts, the setting of their courtly amusements. It has one attraction peculiar to itself in the loch that laps its walls. On it gay barge-loads of "lords and ladies gay" must often have floated, and the song of the minstrel and the strains of the lute been wafted over its waters. There James IV. and Margaret Drummond wiled away pleasant hours in each other's society, before jealousy doomed her to death and State necessity devised a more brilliant alliance for him. In Linlithgow his son, the fruit of the union of the Thistle and the Rose, was born, and it became the dower-house of the widowed Margaret Tudor after the disaster of Flodden. It is the little James V. that haunts us at Linlithgow. We hear his childish voice pleading, "Pa, Da Lyn," and see the tiny figure of the baby king trotting after his knightly tutor, the great Sir David Lyndsay, of the Mount. It was from Linlithgow that the news was borne to him on his deathbed at Falkland of the birth of the baby girl who was to succeed him. We who live in times when our kings see their grandchildren, sometimes their great grandchildren, should surely give much sympathy to the royal race who never saw a son grow to man's estate and judge their actions very tenderly, remembering how they came to their throne as fatherless infants.

The blood must surely have mantled in many a Stuart cheek as they rode from Linlithgow to Stirling, memories of Falkirk, Stirling Bridge, and, above all, Bannockburn, being called up by the scenes they passed; and if anything was needed to embitter the feelings of poor James III. after his defeat at Sauchieburn, it must have been that it took place under the eye of Stirling and within sight of Bannockburn. He must have been glad to lie quiet in Cambuskenneth by the Forth, although he owed his release to the assassin's knife and not to an honourable death in battle. From Stirling there is a splendid view back over the plain of the Forth that has been traversed. Northwards just across the river are the Ochils, a barrier that must be rounded. Steep and bracken-covered on this side, they are smooth and sloping and green on the other, and the valley at their base cannot have changed much since the Jameses' days. Houses are few, for the farms are large, and the loneliness is great. On the right lies the Sheriffmuir, associated with the defeat of the hopes of a James Stuart of a later generation, on the left the solitary Carsebreck where Highlands and Lowlands still contend, but only for victory in the "roaring game." Here we meet the phantom of a stricken queen flying with her infant son from Perth, where the murder of her dearly-loved husband had just taken place. This murder caused Perth to be shunned as a royal residence, as it was not considered capable of protecting the person of a king. When times were quieter James IV. and James V. returned to be crowned at Scone, but externally absolutely nothing now remains of the old Palace. For the sake of James I., however, who was crowned at Scone and murdered in the monastery of the Blackfriars, we must still visit Perth, and indeed the view from the height of Windyedge is worth many times the journey. Scott now tempts us to abandon the river for the road, at least till the "dark and huge tower" of Falkland, where Rothesay met his death, shall come into view. There is no dark tower now, however, as during the Jameses' time it gave place to a fair palace; and, by sticking to the road, we shall have the pleasure of chasing that poor poltroon James VI. when, in for once very well-founded terror, he fled from the Gowrie House in Perth back to the safe shelter of Falkland. Falkland was another of the homes where the Stuarts loved to throw aside the cares of State and indulge in the sports and amusements in which they were so well fitted to shine. Surrounded by forest it afforded splendid hunting, while indoors Blind Harry sang of his hero Wallace to the race who owed so much to him, and there were not wanting courtly chroniclers to celebrate in verse the "lusty life" of their own day. Even the hard-pressed Mary, we are told, sometimes escaped "to play the country girl in the parks and woods of Falkland."

There only remains Dunfermline, the last of the royal palaces, and unique in one way as connecting the Stuart race through Malcolm Canmore with the old kings who sleep in Iona, who knew not any of the fair lowland palaces of their later descendants. The remains of the palace of Dunfermline and the adjoining ecclesiastical buildings are full of suggestion and interest. One could spend long hours in one of the deep windows of the Great Hall trying to reconstruct the ancient buildings or dreaming of the days when

> The King sate in Dunfermline tower
> Drinking the blude-red wine ;

so evening best suits the mood for quitting it. On the way down to Queensferry we may pause at St. Margaret's Stone, and dwell for a little on the tender, pathetic figure of the fugitive Saxon princess, whose marriage with Malcolm Canmore at Dunfermline wrought such changes in Scotland. Further on we shall meet the Lords of the Congregation hurrying hot-foot to Stirling, who nevertheless paused by the way to "kest doun the abbey of Dunfermline." So we pass on to the Queen's Ferry, whence we arrive again by road under the shadow of the castle, more proud of our country because knowing it better, cherishing more our history because we have realised the actors in it, loving more our royal house because we have felt the pathos of abandoned homes, have been haunted by the echoes of laughter stilled, have been moved by the memory of grief endured. We have had a bit from the heart of Scotland and the heart of her history, and I commend it to all as a precious experience.

SOUTH KENSINGTON MUSEUM.

The South Kensington Museum has recently purchased a pair of candlesticks of cast-brass of the seventeenth century, decorated with floral designs on a black-and-white ground. They have very large circular plates between the stems and the bases, which seem to have been a characteristic feature of the period. There are two plain candlesticks of brass of this type in the museum, and in the Kremlin at Moscow there is a very large specimen in hammered silver-gilt bearing the English hall-mark for 1663-4. These candlesticks are exhibited with the other English enamelled objects in the Prince Consort's Gallery.

In two of the cases opposite the Leighton fresco of the Arts of Peace is a small collection of drawings in black-and-white by G. J. Pinwell and J. W. North, A.R.A. ; they were prepared for the most part to illustrate the "Poems by Jean Ingelow," published by Messrs. Longmans in 1867. With them is shown a very interesting pen and pencil drawing by T. White of Pinwell himself at work ; it is dated 1862. In an adjoining case are some woodblocks upon which F. Walker, G. Du Maurier, Miss Edwards, Linley Sambourne and H. Furniss have drawn, but which have in some cases never been engraved. No print from the large cut block by Pinwell was ever published. Five cases near the door of the Art Library contain a large collection of illustrated printed books on architecture, chiefly of the sixteenth century.

In the Architectural Court is the recently-acquired cast of the bronze monument of Archbishop Ernst of Magdeburg (1464-1513), executed by Peter Vischer in 1497, six years before the prelate's death. Some important additions have been made to the collections of architectural details in carved stone through the generosity of Mr. J. H. Fitzhenry, who has presented four examples of French origin dating from the time of Francis I. (1515-47). They are exhibited at the north-west corner of the North Court. The most striking of them is a complete dormer window, standing some 20 feet high, from the Château de Montal, a ruined manor-house situated on the high ground overlooking Saint Céré, in the Department of Lot. This château was built for Jehane de Balsac, dame de Montal, and was begun in 1523 ; it is thus contemporaneous with the better-known edifices at Blois and Chambord.

It was from one of these dormer windows that, as the story goes, Rose de Montal, forsaken by her lover, Roger de Castelnau, flung herself with the cry "Plus d'espoir," a motto which is engraved on the pediment of the window now in the museum. The sculptured ornament includes a beautiful frieze of scrolls, demi-figures and amorini disposed symmetrically on either side of a central cartouche ; on the pediment besides the inscription are two projecting busts and the figure of a headless warrior holding his skull in his hand. The arms of Montal and Balsac are carved below. Next to it is the upper part of a similar dormer window, evidently dating from the same period, as the crowned salamander in flames which forms so striking a piece of ornament on this pediment was a favourite device of Francis I. Below is placed a portion of an arch-soffit, from the Château de Bonnivat, situated some twenty miles from Poitiers, and built by Guillaume de Gouffier, Amiral de Bonnivat, a favourite of the same king. The fourth example is a canopy for a statuette formerly in the church of St. Etienne du Mont at Paris. It is composed of delicate Renaissance work, betraying in its disposition traces of the Gothic style which even at that period were still apparent in French architecture. It is enriched with beautifully modelled figures, scrolls and shields of arms. Replicas of these shields may still be seen on the tall columns and brackets at the back of the high altar of St. Etienne.

ARCHITECT, SCULPTOR AND PAINTER.*

I AM to have the honour of speaking this evening for the mural painters, and it seems to me that the solidarity of the triumvirate of architect, sculptor and painter is just now to us the most important subject in the world. Divided they do not fall, the three arts, that is true ; alone each would make a good showing, but united they stand for the greatest collectivity of beauty which man has produced. Follow the whole course of history and you will find no buildings of importance, save the Pyramids of Egypt, which have not been greatly enhanced in beauty, celebrity and influence for good by the fact that sculptor and painter have followed in the train of the architect.

The architect comes first ; he is the leader. Even in prehistoric times he fortified the cave mouth and wattled the hut before his younger brothers carved profiles of bear or deer on bone or daubed them in red clay on the rocks. And later with that development which in the dictionary definition marks the difference between building and architecture, the architect must determine the proportion of wall, window and door before sculptor or painter can be useful. Then the architect is leader, but close behind him come his aids. The temple of the arts is builded by three minds acting in unison, and the keystone to the structure is harmony, harmony of thought and feeling between architect, painter and sculptor.

It is upon this above all else that we, the representatives of the allied arts, must insist if we would be successful. Harmony should be our slogan. The very word decoration tells us so, tells us that once in its place our work must be decorous, suitable, fitting. If it is not enhancing to them and enhanced by them, no matter how fine it is as an individual work, it is a failure from the true point of view, because it comes to jar, not to consolidate, the effect. Therefore, and because if we ignore each other we may harm each other, we must study each other, make allowance for each other, enough allowance, and what is perhaps nearly as important, not too much.

If ever a situation required one to light the lamp of sacrifice it is that of architect, sculptor and painter confronted mutually by the same problem ; but, on the other hand, if the sacrifice of personality is entire, the lamp is quite snuffed out, and there is no more light at all.

The painter or sculptor who proceeds in contempt of his architect is a bull in a china shop, to be led outside as soon as possible and turned loose in the pastures suited to untamable personalities. But the architect will be as bad if he turns Procrustes and lops off the feet or heads of his collaborators till their stature just fits the size of his idea. Mutual concession will lead to mutual comprehension and pave the way to mutual education. We shall never be really in harmony till each learns something of the other's specialty and realises that quite apart from temperament and genius in the producer there are reasons for beauty, reasons which can be studied and understood. To-day we feel our lack of knowledge of each other and are a bit irritated by it. Says the painter, the architect has no decorative sense ; says some one else, the sculptor has no sense of scale. As for the architect's estimate (too true perhaps) of the painter's knowledge of architecture, it reminds one of the dialogue in the novel of the "Heavenly Twins" between the tourist and the bad boy of the story.

"Flying buttresses," says the tourist, looking down into his guide book and up at the cathedral, "what are flying buttresses?" "Flying buttresses," said the boy smoothly, "flying buttresses are a sign of rain." We mural painters really do know a little more than the tourist, but there's lots of room in us for more knowledge. More all-round education for painter, sculptor and architect is what we want, for it is only by our harmony and mutual comprehension that all sound education of the public, which is so crucial to our success, can be attained. We are willing to begin with educating ourselves, we mural painters. We are young in art; our work, save the splendid example in the Ascension Church in New York (still the most beautiful mural painting in America, not excepting the Puvis de Chavannes), was born but a dozen years ago at the World's Fair. We are coming of age now; a rather callow age as yet, you say, but if we recognise our callowness we shall mature. Our art is a difficult one, each problem is a new problem, our men and women have grown from the little people of the easel pictures to more than lifesize, and they are harder to manage. The cleverly brushed square inches of the sketch have expanded to square yards; the portrait of the easel-painter must be taught to carry 60 feet at least; on our big canvases we must combat unexpected reflections and inequalities of lighting. We ask the architects to credit us with all these difficulties, and on the other hand, we must admit their right to ask sacrifices of us. A painter has no business to sit in his studio and, formulating his scheme, be it ever so good, ask the architect to fit that scheme to his architecture. Such a painter would be exactly like the artist who, being commissioned to paint a tavern sign with a white horse on it, said he would rather paint a red lion. "But I want a white horse." "Oh, but the red lion would be handsomer." "Yes, but I want a white horse and won't have anything else." "Oh, well, if you are so obstinate, I'll paint you a white horse, but it will look like a red lion."

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* A paper by Mr. Edwin H. Blashfield, read before the New York Architectural League.

There are architects who reasonably fear in some cases that the white horse ordered may look like a red lion, and to do away with such fears the mural painter should earnestly study beforehand the place which he is to decorate.

Before ending I want to say a word about the subject of decorations. We have a wonderful field before us—new cities awaiting our hand. Do not let us forget that it is an American field, that it is an American field suited to the celebration of what Americans have been in the past, what they are now and what they hope for in the future.

We do not wish to have processions of pale abstractions only upon our walls, goddesses of Liberty and Justice and such; we want processions also of workmen with their tools, real men and women of all sorts and conditions. It is good to see the historical subjects coming, good to see the facts. But in proceeding thus as patriotic Americans let us also proceed heedfully, looking carefully at all sides of our question.

Let us remember that to the American the apprehension of fact is perhaps easier than the cultivation of fancy; let us therefore not neglect the latter. I would deprecate with all possible earnestness the opinion of those who would wish us to substitute realistic for what they call idealistic or allegorical subjects. We don't want to substitute one for the other; we want to have both, and we want them very much.

Fine spun allegory is a nuisance, the refuge of the uninventive, but simple symbolism is good and essential, because without it we cannot have large treatment of the nude and simple draperies, and without such treatment no rounded national art is possible.

Throughout the history of painting during thousands of years, save in Holland, wherever and whenever the nude has been neglected, just so surely the art of that school has either ceased to be all round in character or has ceased to be robust. The different branches of painting are equally great, whether portrait, landscape, historic or symbolic, but a national school does not consist of any three or four branches, but of all of them taken together. Symbolical painting of the nude and large draperies is essential to us. Say if you will that we have not yet the capacity to treat it with the strength and splendour due to it, but admit also that we shall not learn to swim by avoiding the water. We paint with oil upon canvas just as the Venetians did; their works have lasted 400 years. We must learn to paint pictures whose potentiality for material endurance need not terrify. Such learning must be based upon study of the nude in the size of life.

Therefore, we need and should have what is commonly called idealistic painting and sculpture. My whole subject to-night has been the mutual education of architect, sculptor and painter.

This will compel expenditure of thought, time and money, but the result should be worth the effort.

Our opportunity is almost boundless. We have an empire for our client, and for our themes the conquest of a continent by the arts of peace, the events of four wars, exploration, invention and evolution. There is plenty of capacity in the American, and with perfected mutual education we shall be equal to the celebration of all this. We shall become so gradually, for we recognise our difficulties.

It is for such recognition and improvement that we are teaching in the schools, founding university departments at home and American academies abroad. We are trying to help the coming generation to a better equipment than was ever provided to us.

Help toward such a happening is in a way better and bigger than any picture which we can paint, statue which we can model, building which we can raise, and if the man grown too old for work sees such a future coming, he may put down compass or chisel or palette without bitterness and say with a good heart, "Finis coronat opus."

TESSERÆ.

Greek Influence in India.

It seems that we have been too apt to attribute everything in India with a classical savour to the conquests of Alexander, forgetting how faint and fleeting were the traces left by the remotest of his escapades. His Indian venture was abortive and fruitless; in fact, as Foucher points out, the retreat from the Punjab probably resembled a subsequent retreat from Moscow. Moreover, art rarely breaks its native bounds in the period of efflorescence. As a rule, it is only when the vital force is spent or on the wane that the last results of effort and experiment can be exported for imitation in definite forms. Leonardo died in France, but it was Primaticcio—*quantum mutatis*—who founded a school there. Anyhow, it was to the *pax Romana* far more than to the adventures of "Macedonia's madman" that Hellenic art owed its possibility of expansion. What we should have guessed antecedently is confirmed on examination of the forms themselves. The influence at work is not pure Greek, but Græco-Roman; and, on the whole, Senart is probably right in assigning the bulk of what we call Græco-Buddhist sculpture to the first two centuries of our era.

Decoration of Basilicas.

The basilica builders had no sort of intention of challenging critics in their exteriors. They contemplated art in their interiors only. This was by a system of decorative incrustation. Mosaic of small dice or cubes of coloured marbles had been extensively used, chiefly for pavements, but also for roofs, by the old empire in later days. The incrustation of walls with larger and more magnificent veneers of marble was also common. The scale on which the imperial baths and palaces were built necessitated the use of the more cheap and procurable material of brick, and the taste for importing rare and splendid marbles could only satisfy itself by covering with them these vast protected interior surfaces. This system therefore became, in the hands of the rich and luxurious Romans, the most sumptuous source of architectural decoration. It was at the same time a system distinct from that of the structure itself. The latter was crusted over and concealed as by a coat, the forms and lines of which had no necessary connection with the mass beneath or behind it. These slabs of marble were usually made to cover the walls up to a given height, 15 to 25 feet, after which occurs generally a string or cornice holding them and binding them into the wall, while it marks the division between the marbles and the mosaic decorations, which, being in small dice, could assume the character of pictorial representation. The sculpture on these buildings is usually executed in white marble, the shafts of columns being of various colours and monoliths. There are two characters of sculpture in basilicas, the first being a simple imitation of the debased Roman work of the period, and usually executed to supply parts that were not to be obtained by ransacking the ruins of the city. The second period of sculpture, viz. all that executed in Ravenna, Constantinople or elsewhere, where no older work was at hand, has a character of its own—sharp, severely controlled, but not wanting in vigour or grace. Constantinople and Ravenna furnish the most elegant and characteristic work of this kind. In this sculpture natural forms and the appreciation of natural vegetation begin to reappear. For some ages the Easterns seem to be ahead of the West in these respects; the East therefore will form the best field for study for details of these works. The state of artistic design was undoubtedly at its lowest when these basilicas began to be erected as churches. Their historical designs are rude and conventional. The old Greek sense of beauty had died out in Rome. Luxury and vulgarity had gradually destroyed the manliness of the race, and such sense and love of beauty as it had possessed in days of vigour and prosperity. Constantine could find few competent artists either to sculpture his triumphal arch or to decorate his new capital. Still, the Christian community had carried down with it into its subterranean oratories and chapels certain traditions of former times. Historical representations, even sometimes under mythological types, as that of Orpheus, are habitual to those interesting monuments. The Classic tunic, and occasionally the nude figure, continued to be represented in their paintings. We shall find as basilica building and decoration progressed a marked difference between the simplicity of accessories of dress and ornament in the West, in contrast with the elaboration of colour and detail in the East. The basilicas of Justinian at Ravenna are interesting examples of this Byzantine spirit; they represent in more than one instance the emperor and his court, or his empress and hers, with details of costume carefully followed. But though these designs were rude and showed ignorance of form, they were by no means wanting in grandeur. Quite the contrary. That nerve and vigour of character which luxury had eaten out of the Italian character was beginning to grow anew from fresh sources, and Christianity really inaugurated the revival of the arts. That revival was slow and conducted through most stormy ages of calamity, but a genuine revival it was.

Stone, Bronze and Iron Ages.

The effect of prejudice in diminishing the power of critical judgment in man is really remarkable. The Neo-German School having decided in their own minds that all great discoveries, both abstract and practical, belong chiefly to the Germanic branch of the Indo-European race, of course the discovery of metals must have been made by them, and was, therefore, carried into their new settlement in Scandinavia. What if the German Nomades were ignorant of iron, and only learned its use in Scandinavia or on their way thither? Yet such is, very probably, the case. The idea that three successive races occupied the north and north-west of Europe, the first of whom used only weapons of stone, the second bronze weapons, the third, being acquainted with iron, originated in Denmark—in an excellent little guide to the ethnological archæology of North Europe, published by the Society of Northern Antiquarians of Copenhagen, this hypothesis is stated, as it ought to be, with caution and reserve, and merely as a probability. Some of the members of that body have not imitated this good and scientific example; among others, Mr. Worsaae, looks upon the hypothesis as an expression of facts. Another and more recent writer of the same school is Mr. Axal. Em. Holmberg, who has published a popular exposition of the ancient condition of Scandinavia, in which the first part is devoted to (1) the Stone Age; (2) the Bronze Age; (3) the Iron Age, &c. That weapons composed of the three kinds of materials mentioned are found in tumuli, not only in Scandinavia, but also in Ireland and elsewhere in North Europe, is true; and this is just the whole amount of truth in the hypothesis—the three successive races, each in a distinct state of cultivation, being an interesting creation of imaginative archæology, which has found favour not only in the country of its birth, but in England, Scotland, and we may also add, Ireland.

Bernini, the Sculptor.

Bernini was the originator of a new manner, the founder of a numerous school, whose sway extended over the whole of Europe, and continued down to the middle of the last century. The talents of this artist were great, vigorous and prolific, but his taste was as remarkably extravagant. Destitute of the creative power which reveals itself in the production of new combinations, his ill-regulated efforts after originality were unhappily directed to the style of art which in the very midst of the master-works of antiquity he misapprehended and debased in an inconceivable manner, as though he would annihilate all truth and beauty in art and leave it entirely at the mercy of the most unbridled fancy. In truth, extravagance of taste could scarcely be carried further in sculpture than in the works of Bernini and his school. Bones of exaggerated size, muscles swollen into mountains, in his men; soft, bloated flesh, voluptuous forms, surpassing even Rubens, in his women; ill-formed, scrofulous children; draperies to be compared only to the waves of a stormy sea suddenly turned into stone; distorted features, frantic faces, wildly dishevelled hair and beard, attitudes in violent contrast, the gestures of insanity, impetuous movements without aim or reason, and a treatment of the marble giving it by high polish an almost gelatinous softness, are the chief beauties of that style which in its day enchanted the amateur and connoisseur, and inundated France and Italy during a whole century with its deformities. But it was not sculpture alone that was thus misused, a similar corruption of taste prevailed like an epidemic in all the other departments of art. Marino and his followers in poetry, Lanfranco and Pietro da Cortona in painting, Borromini in architecture, were all guilty of like extravagance; but the enormities of Bernini were the greatest—most repulsive. Strictly speaking, this hateful manner had been transferred to sculpture from painting, and Algardi had already laid the foundation of it, but in his hands it was kept within bounds. Bernini alone had the hardihood to introduce into sculpture the license which Lanfranco and Pietro da Cortona permitted themselves in their ceilings and cupolas.

Charles V. at Yuste.

When the Emperor Charles V. decided on his abdication and had selected the monastery of the Order of St. Jerome at Yuste as his retreat, he sent officials to examine the site. Afterwards he sketched a plan himself of the rooms he required for his accommodation. They were described as "hardly sufficient for a private gentleman—four out of the six rooms in the form of friars' cells, with naked walls and all on a level with the ground." Although the additional wing had neither golden gate nor Temple of Esculapius, as at Spalato, the elevation partook more of a cheerful Italian villa than a Spanish convent. The building was superintended by Antonio Villacastin, who afterwards, as surveyor of the works of the Escurial, saw the first stone laid of that gigantic pile and its completion; there he lies buried like our Wren, and also aged ninety-one, in his own St. Paul's, the best monument of his fame. The wing consisted of two storeys, each containing four rooms, connected by sunny galleries outside and well-warmed inside by fireplaces, such as the chilly Charles everywhere introduced into his Spanish residences, even in the Alcazar of sun-roasted Seville and the Alhambra of sun-toasted Granada, to the merciless destruction of exquisite Moorish diapery and surface-wall decoration. The emperor inhabited the upper storey; an opening was made, which enabled him when confined to his bed to see the high altar and the celebration of Mass in the chapel: his cabinet looked southward; the garden below it easily reached by an inclined plane and arranged in a succession of terraces down to the stream. The front of the monastery was shaded by a magnificent walnut-tree, even then called *el nogal grande*—"a Nestor of the woods, which has seen the hermit's cell rise to a royal convent and sink into ruin, and has survived the Spanish order of St. Jerome and the Austrian dynasty." The rooms were furnished to his peculiar simple tastes and hung with plain cloth instead of the usual costly arras, of which, however, he had enough to tapestry the whole building. His supply of quilts and fine linen was greater still; whilst his friends were seated on velvet chairs he himself reposed on one with wheels, six soft cushions and a footstool. Of gold and silver plate he had 13,000 ounces. Charles, who always had been plain to parsimony in his dress, did not turn dandy in the cloister; his jewels consisted chiefly of badges of the Golden Fleece, one of which is said, incorrectly, to have been worn by our Great Duke.

Carpets in Europe.

It is a doubtful point as to whether carpets proper were made in Europe before the seventeenth century, although some archæologists think that the "tapisseries Saracenois" mentioned in the edicts of Louis IX.'s time were true-piled carpetwork, and it must be said that their reasoning seems rather convincing. Anyhow, there is no direct evidence of carpet-making in Mediæval Europe, where, as a matter of course, foot carpets would be little used in the rough and very out-of-door life then led. But from the middle of the fifteenth century there is abundant evidence of the importation of Eastern carpets into Europe, the most direct and satisfactory of which is given us by the pictures of the period, in which such goods are often shown. These show us carpets doubtless made in Asia Minor, of geometrical designs always, the prototypes of which were obviously floor mosaics; both the Flemish painters and the Italian paint these things with much accuracy and enjoyment. But besides these carpets, there was undoubtedly another kind of design being carried out at the time, whose headquarters was Ispahan, in Persia. This kind of design was elaborate, flowing and founded on floral forms, very commonly mingled with animals and sometimes with human figures. In short, the geometrically-designed carpets have a direct analogy with the earlier Byzantine silk stuffs as to design.

Correspondence

Nuneaton Priory.

Sir,—I have, since writing to you, found brief mention in the thin one-vol. "Dugdale" and in "Stevens" (practically identical) of Nuneaton Priory. It belonged to the category of greater priories, but no list of priors is given. "Dugdale," i. 516, is the reference in "Stevens," but there are not that number of pages in vol. i. of the edition of 1718, to which he refers. The continuation of the "Monasticon" often finds fault with "Dugdale," so the eight-vol. edition, though itself not faultless at times, was my best authority, and its not having given Nuneaton may be taken to be my excuse for not coming upon it before. I have now entered it on my list of greater priories.—Yours faithfully,

John A. Randolph.

GENERAL.

Professor Thiersch, of the Munich Technical High School, has been elected honorary member of the local Academy of Fine Arts. He is an architect.

Mr. R. T. Moynan, R.H.A., the Irish painter, died last week. He studied in Antwerp and Paris, as well as in Dublin. The subjects he preferred were poor children.

The Belfast Garden Estates Co. will hold an exhibition of houses on their Cliftonville Estate, Belfast, in November. The sum of 700*l.* will be expended in prizes. The awards will be made by the assessor, Mr. Maurice B. Adams.

The Partnership between William Thomas Lockwood and Philip Henry Lockwood (trading as T. M. Lockwood & Sons), Foregate Street, Chester, architects, has been dissolved.

The Holborn Borough Council have agreed that the architect whose designs for the new town hall should be selected will have the carrying out of the work.

The Cleethorpes Town Committee have decided to invite young artists to submit designs suitable for a poster advertising the town. A prize of five guineas is offered to the competitor forwarding the best design.

Mr. Percy Monckton will be a candidate for the vacancy in the Court of Common Council caused by the death of Mr. Deputy White. Mr. Monckton is a member of the firm of Monckton & Gillespie, architects.

The Holborn Borough Council were informed by the law and parliamentary committee that, according to the opinion of counsel, the Council could not legally grant a superannuation allowance to Mr. George Wallace (late borough surveyor).

The Edinburgh Architectural Association at their meeting on Wednesday adopted the motion of Mr. Henry Kerr, by which Mr. G. S. Aitken will receive the full privileges of Fellowship of the Association. Mr. Aitken was the first president.

In the Competition for free library buildings at Bangor, out of the 117 designs submitted, Mr. P. C. Thicknesse, the assessor, awarded the first prize of 25*l.* to Mr. Albert E. Dixon, of the firm of Dixon & Potter, King Street, Manchester, the second prize being awarded to Mr. Vernon Hodge, 13 Grand Parade, Teddington.

The Glasgow Corporation will charge a fee for the right of reproducing the works of art in the museums and galleries.

The Late Mr. William Gibbs Bartleet, of Kirkdale, New Beckenham, Kent (of the firm of Messrs. W. G. Bartleet & Son, architects and surveyors, of 56 New Broad Street, London, E.C.), has left property valued at 86,015*l.*

The Annual General Meeting of the Manchester Society of Architects will be held on the 26th inst.

Mr. Thos. Moody, F.S.I., has removed his offices to No. 2 Haymarket, S.W., the premises Nos. 29 and 30 Cockspur Street having been acquired by the Cunard Steamship Company for their new building site.

Our Valued Contributor, Dr. William Searle Holdsworth, D.C.L., lecturer in jurisprudence at St. John's and Wadham Colleges, Oxford, and professor of constitutional law at University College, London, has been elected to an official fellowship at St. John's College.

The County Road Board of Sutherland last week discussed a motion to appoint a civil engineer and surveyor, in succession to the late Mr. John Baxter, C.E., and an amendment that the candidate selected need not be a civil engineer. Eventually it was agreed to declare the situation open at a salary of 250*l.*, with 50*l.* for travelling expenses and the engineering work of the Council, the only stipulation being that besides being able to attend to the roads, the person appointed should be able to prepare plans of bridges, waterworks, &c., and see the work carried through.

The North Wall of Crowland Abbey, in South Lincolnshire, having buckled, it will be necessary to underpin it immediately if further damage to the old monastery is to be prevented. The rector, the Rev. T. H. Le Bœuf, states that since 1884, when he was appointed, he has written 17,410 letters asking for help to restore the abbey. His labours have broken down his health. Mr. Le Bœuf says his desire is simply to restore the remains of this once famous mitred monastery, the history of which goes back to A.D. 672.

M. Rodin, the French sculptor, received from the Glasgow University the honorary degree of LL.D. on the 18th inst. When intimation of this was made a short time since the Council of the Scottish Arts Club, Edinburgh, wrote M. Rodin inviting him also to visit Edinburgh, and offering him a banquet in recognition of his distinguished services to art and as a souvenir of his visit to Scotland. In a letter addressed to the secretary of the club, M. Rodin regrets his inability to visit Scotland at present, so that the degree on Wednesday had to be conferred *in absentia.* He says:—"I feel deeply sensible and grateful of the honour you have done me in offering to entertain me at a banquet. Unfortunately, I am so fatigued that I can't think of undertaking so long a journey at present. It is a great regret to me not to be able to shake hands with my Scottish friends, to whom I send the warmest expressions of my regard. I have not given up the idea of coming, some time, to Scotland—far from it."

Sir Rowand Anderson has submitted his report to the Governors of George Heriot's Trust with regard to the architectural, trade and art classes in the Heriot-Watt College, Edinburgh. In one place he states:—"Edinburgh cannot support and does not require more than one first-class school, and all the work done by the above schools could, and should, be concentrated in one school, under a high-class director and organiser, who should be a permanent official with a more highly paid staff of teachers, who should be engaged for a term of years only, say five. While I advocate the concentration of art teaching in one central art school, the Heriot-Watt College and all other technical schools must still carry on drawing classes, as any engineer or man of science cannot be considered completely educated unless he is a good draughtsman."

The Hereford Town Council, in consequence of a memorial from local architects asking them to forbid their officials, their assistants and municipal servants from engaging in private business, adopted the following resolution:—"That all persons in the employment of the Corporation whose appointments were based upon the devotion of the whole of their time to the work of the Council, shall not hereafter be allowed to take outside or private work, either in or out of working hours, other than advisory, and then only for local public bodies, when and after application shall have been made to this Council by such local public body, and such application shall have been granted by this Council in private meeting."

The Coventry City Council were informed by the general works committee that they had selected a design for proposed municipal offices and shops in St. Mary Street and Earl Street for submission to the Council on the 24th inst., and had made arrangements for the designs to be inspected for a week by members of the Council. A councillor pointed out that an important decision upon plans involving large expenditure had been arrived at without expert advice, and this he thought highly inadvisable. The committee, it appeared, had the matter referred to them with direct instructions to select a plan, and this was what they had done. An amendment that the minutes be referred back was defeated. It is expected that the total cost of the scheme may be about 91,000*l.*

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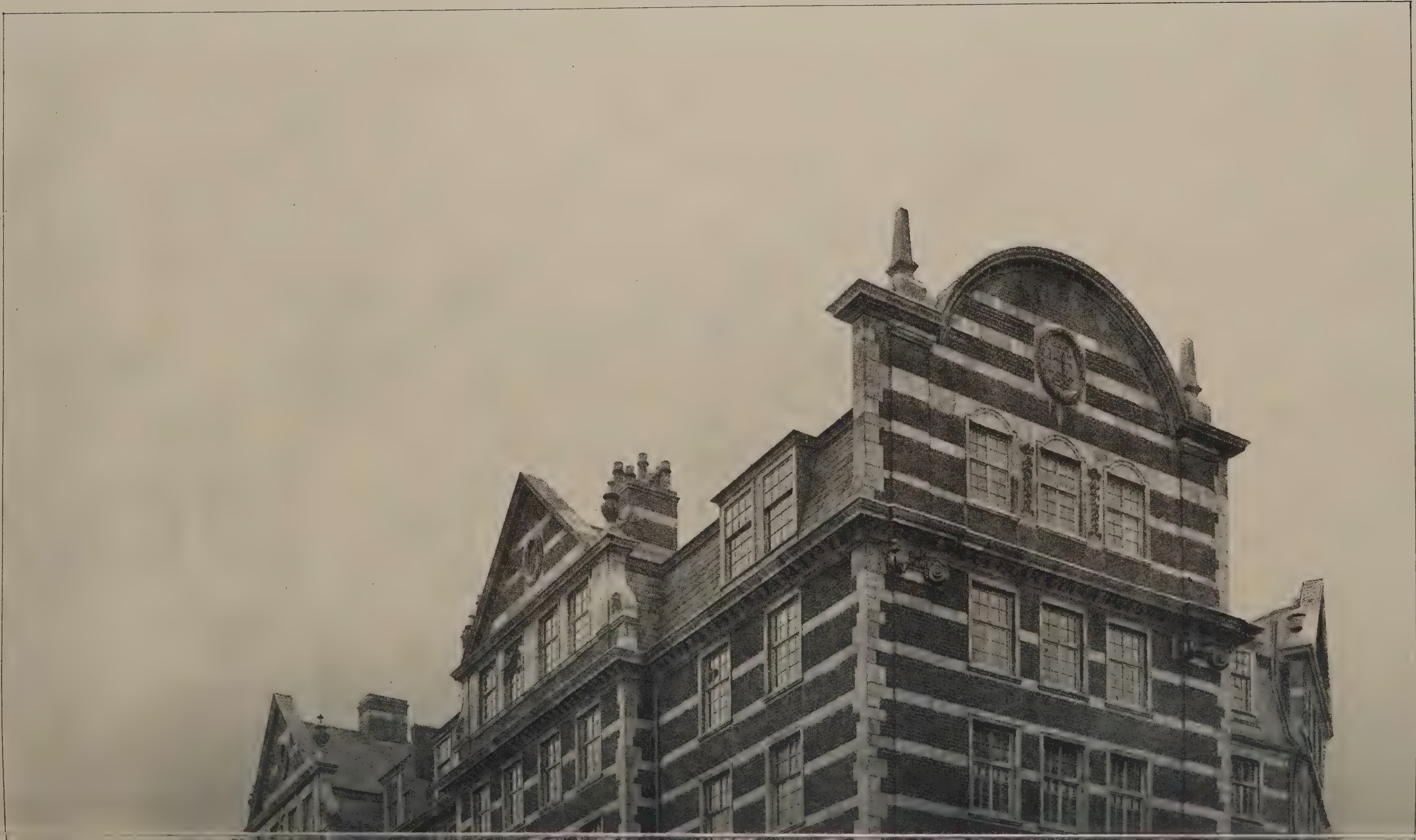

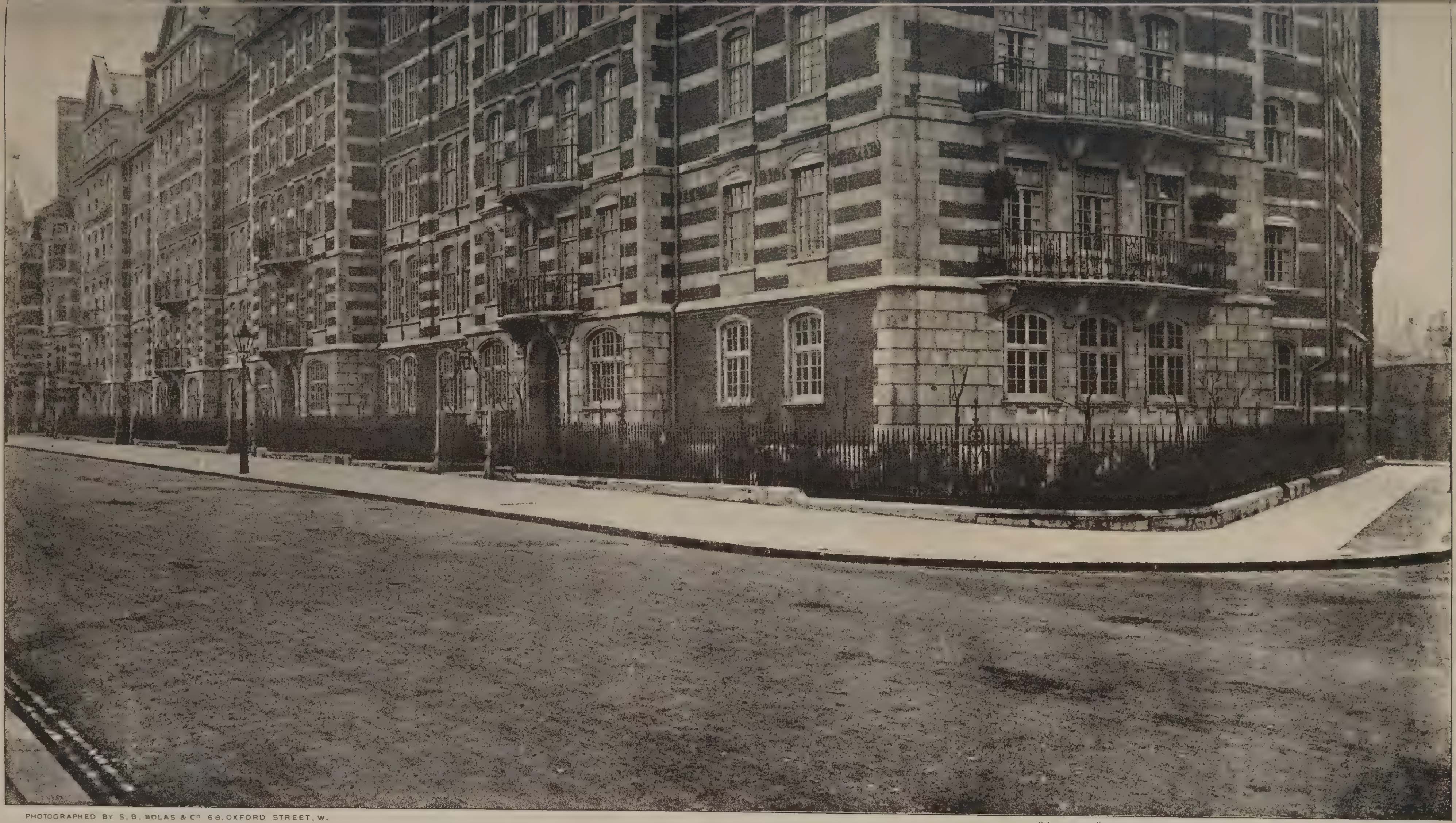

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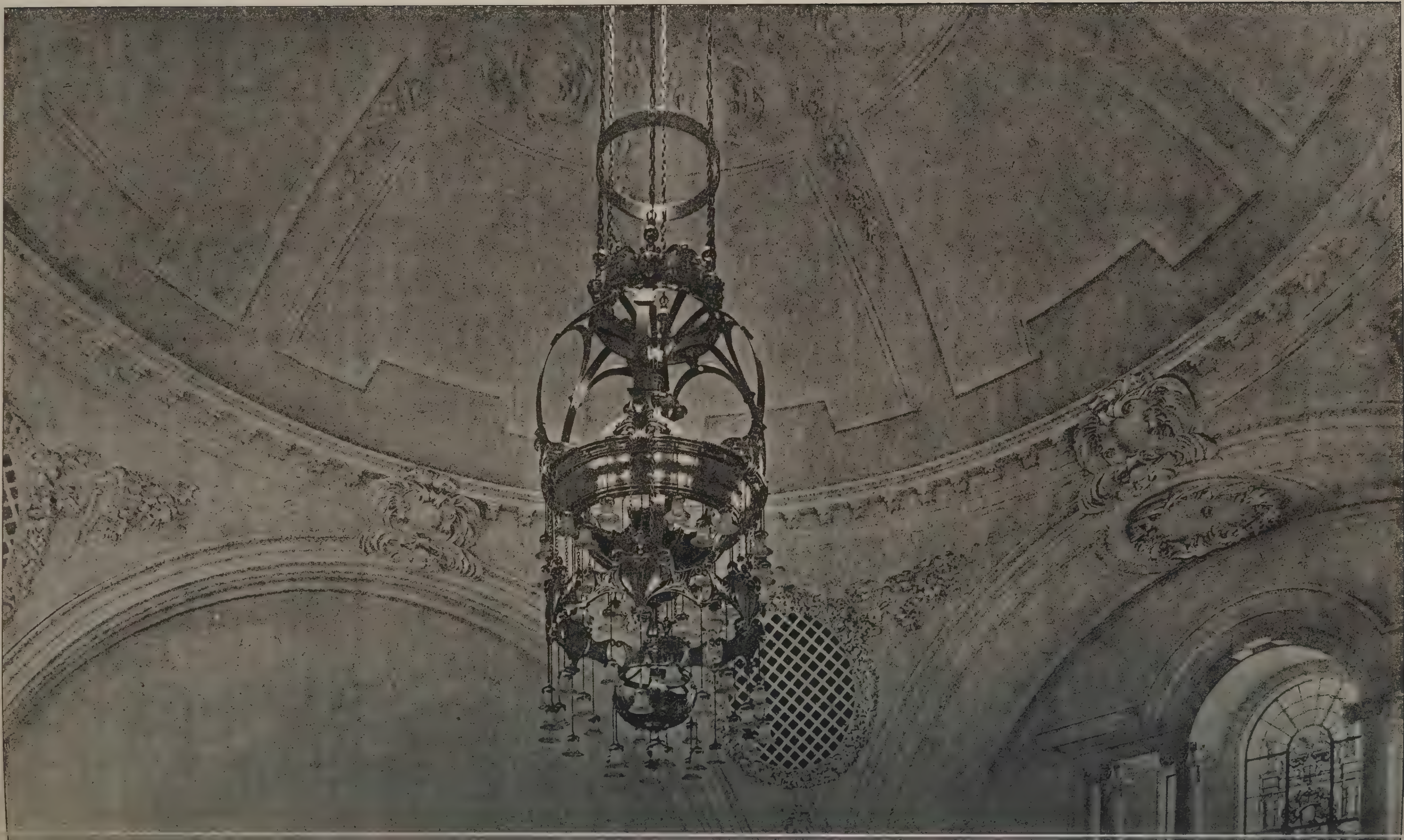

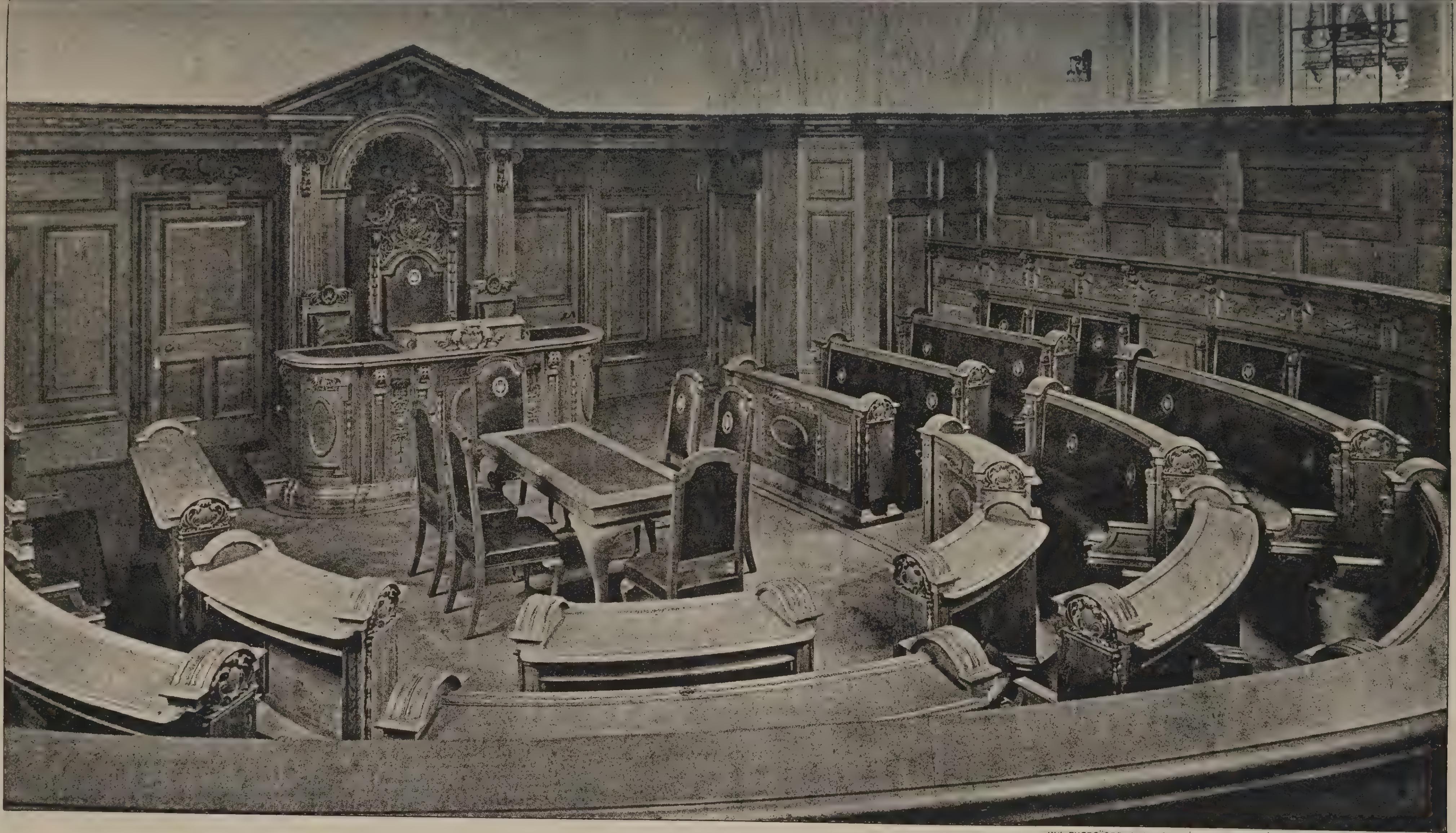

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WOOLWICH TOWN HALL: INTERIOR OF THE COUNCIL CHAMBER.

A. BRUMWELL THOMAS, Architect.

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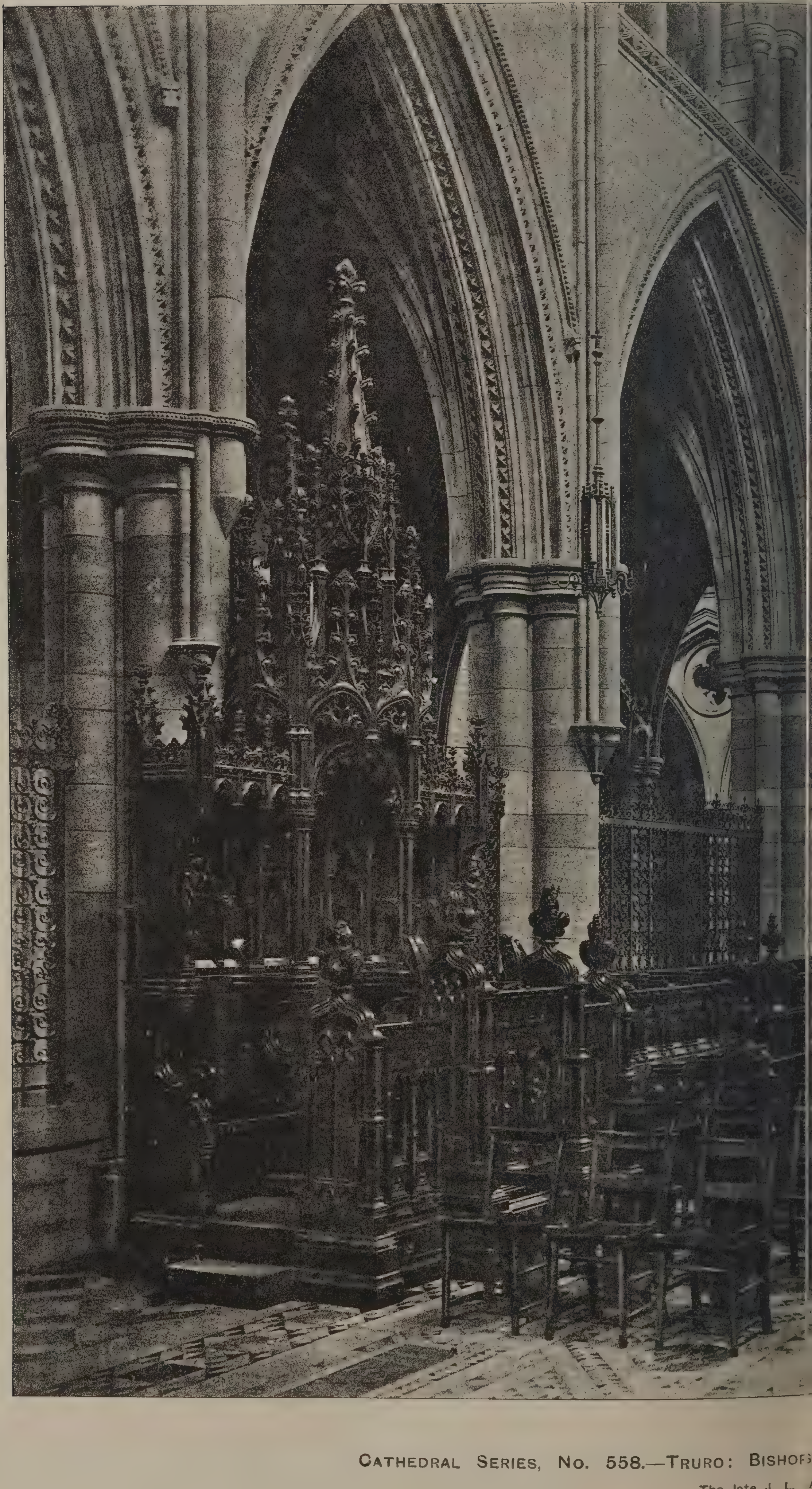
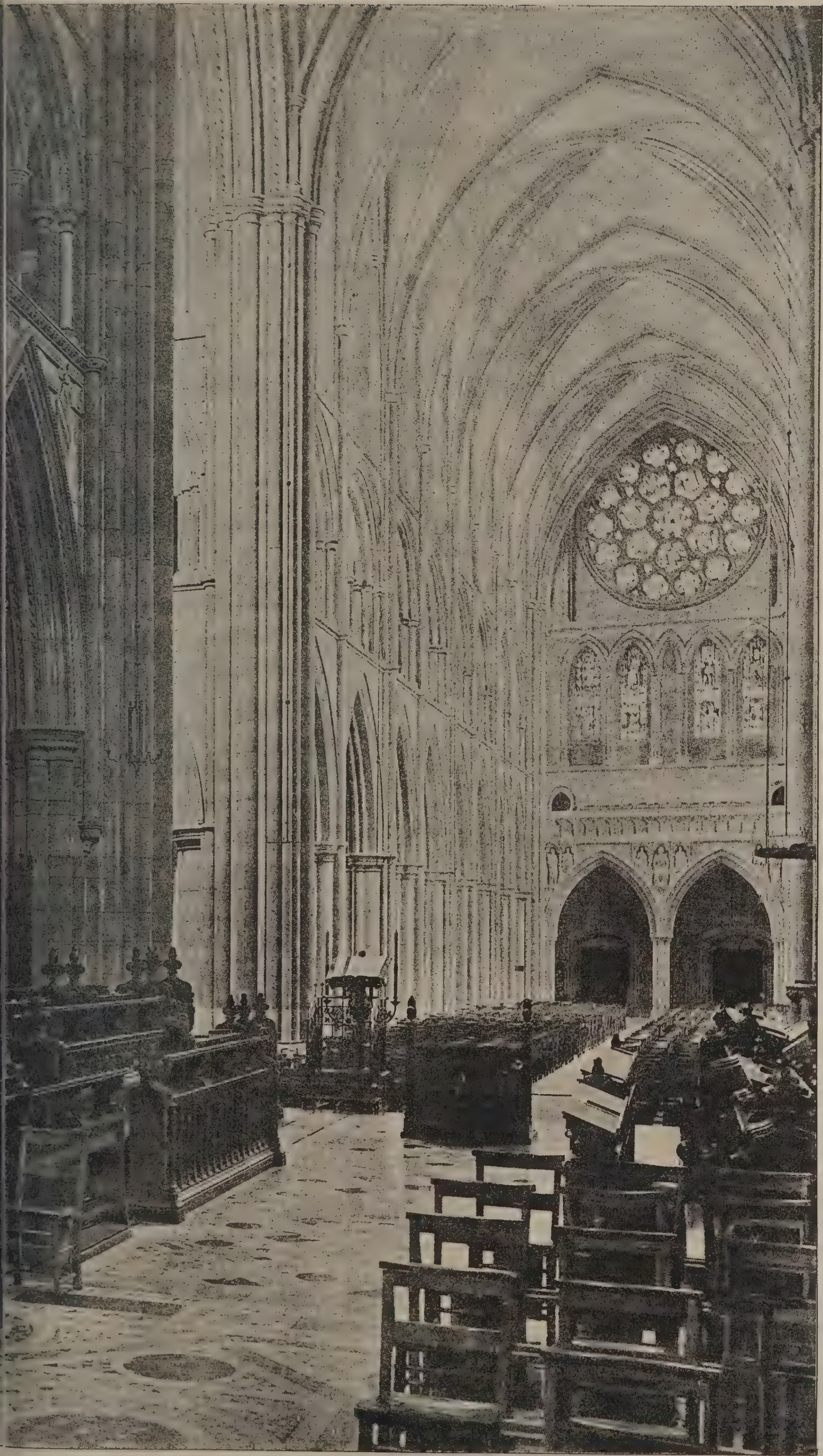


CATHEDRAL SERIES, No. 558.—TRURO: BISHOP

The late J. L.



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RONE AND SOUTH SIDE OF CHOIR AND NAVE.

R.A., Architect.

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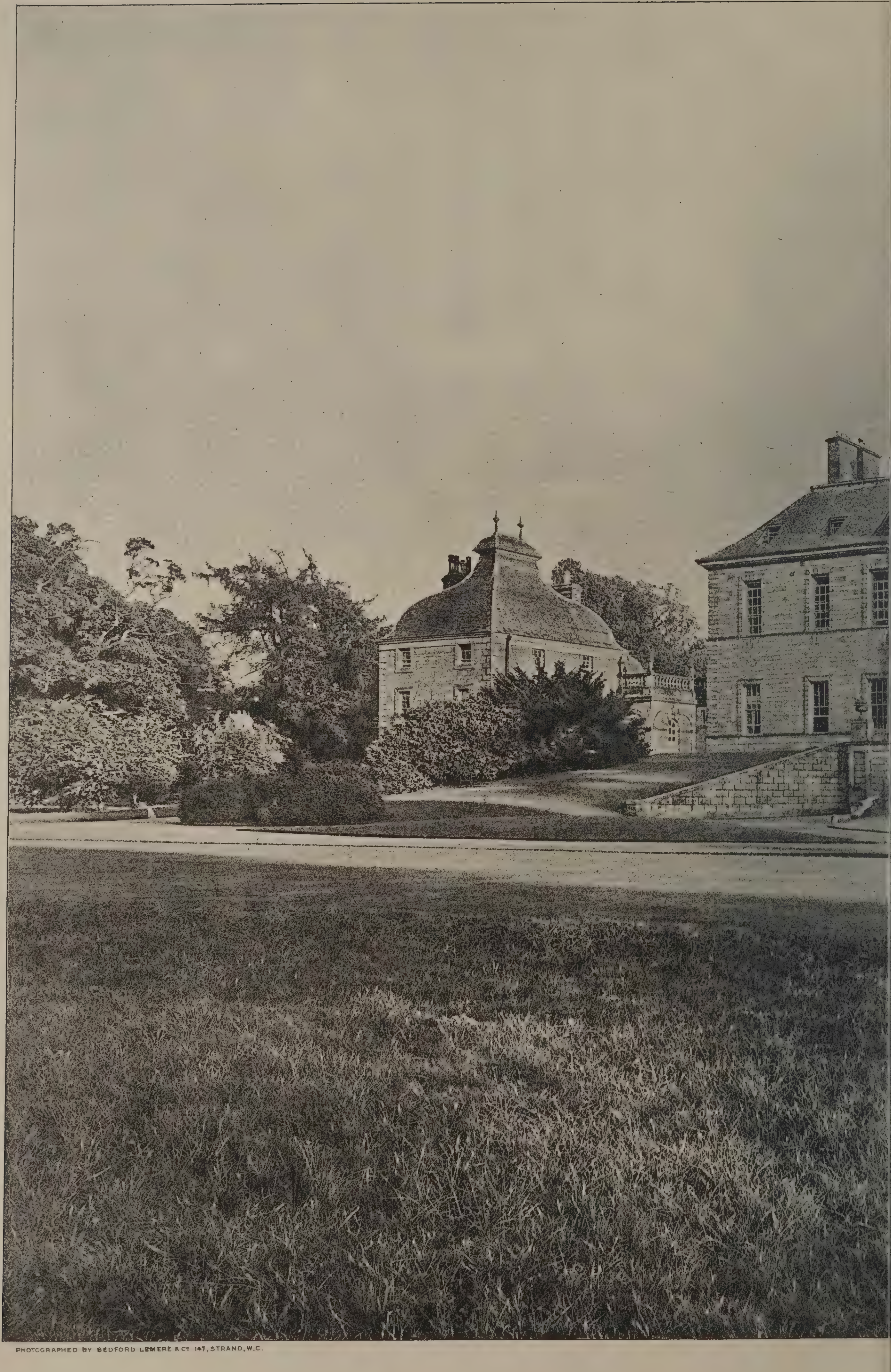

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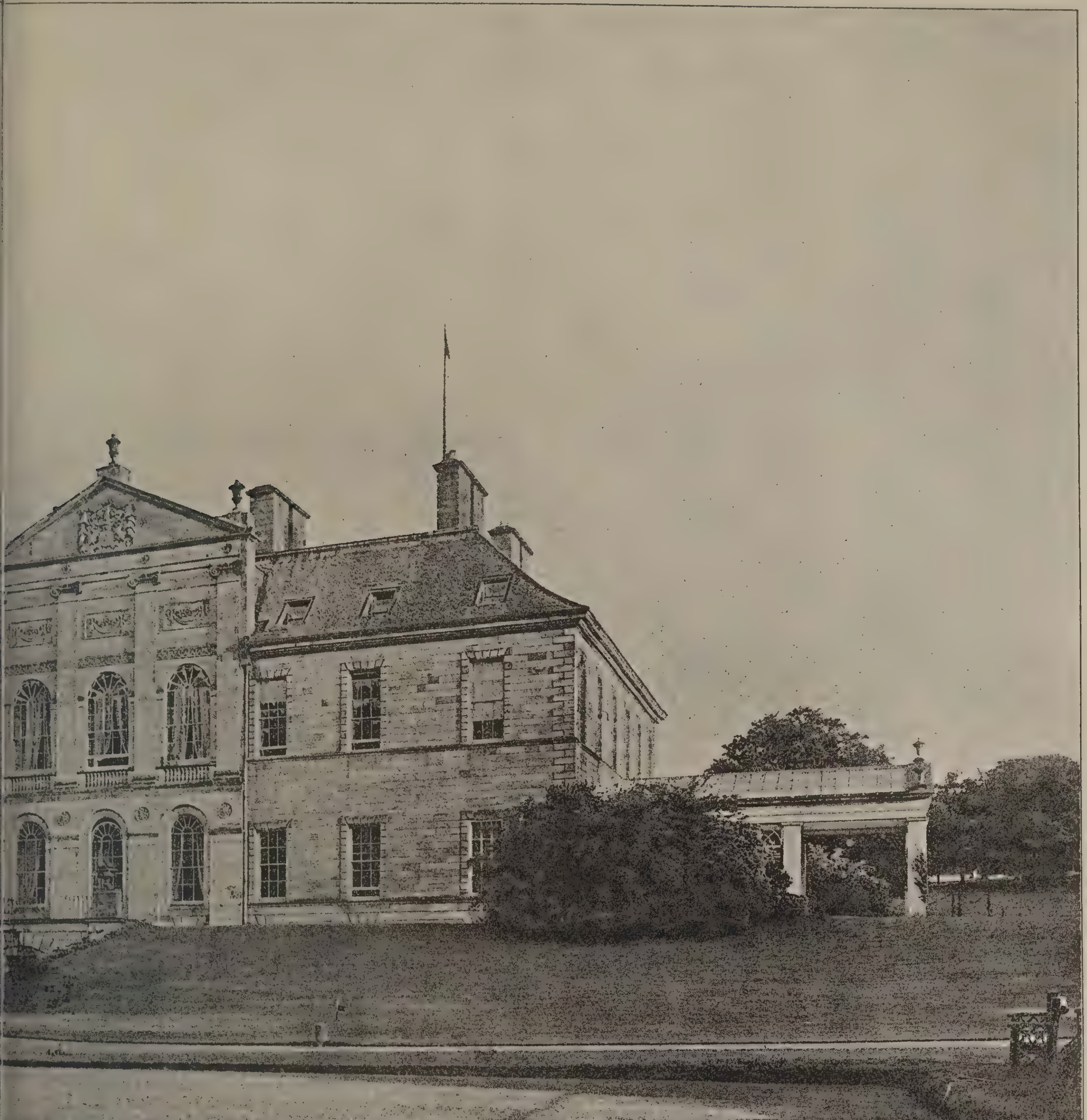

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The Architect.

THE WEEK.

The destruction of San Francisco is likely to have some effect on the deliberations about the Panama Canal. By one scheme it would be necessary to have immense locks. In fact, they would surpass any already existing. But it is now believed that such structures would be shattered if there were any earth movements. If locks are not adopted expensive cuttings would become necessary, and the canal would have a diminished breadth and depth. In the latter case the traffic would be restricted to the use of vessels of less draught than is desirable. Some of the delay in constructing the canal must be ascribed to the number of the proposals which have been brought forward. It may be assumed that the number will be largely increased, for inventors have a fascination in providing against tellurian forces.

There was a discussion on Monday by the Portsmouth Town Council over a proposal that it was expedient for the Council to acquire the undertaking of the South Pier Company, Ltd. In the end thirty-four members voted for the project and only one against it. The South Parade Pier was partially destroyed by fire a couple of years ago. From time to time the owners have endeavoured to raise the money which would be necessary to restore the structure, but without success. Plans were prepared, but the financial difficulty was not to be overcome. The pier in its present state, with a license, the plans and other documents, can be acquired for 10,750*l*. To that sum will have to be added the cost of reconstruction, which will amount at least to 35,000*l*. It is, however, assumed that it will be necessary to obtain an Act to authorise the sale, and that the outlay will be 50,000*l*., or with a floating swimming-bath the amount may reach 60,000*l*. Portsmouth is subjected to military control, and it is considered doubtful whether the authorities would allow the construction of a new pier at a site nearer to the Castle. Some members of the Council were in favour of an independent pier, but eventually it was decided to take over the property of the company. The debenture holders are to be paid in full, the holders of preference shares two-thirds of the nominal value, and the ordinary shareholders one-half of the nominal value.

The Italian architect Signor Beltrami, having been entrusted with the rearrangement of the Ambrosiana at Milan, has made an important discovery. There was a bust portrait in the gallery which at one time was known as a Duke of Milan, and it was ascribed to Leonardo da Vinci. Others considered it to be a work by his disciple, Luini. Modern scepticism was unfavourable to both designations, and finally the picture was simply regarded as a portrait of an unknown man by some imitator of da Vinci. The picture has been cleaned, and to the amazement of those engaged, a hand became visible which held a roll on which some notes of music were represented. After investigation Signor Beltrami has come to the conclusion that the portrait is one of Franchino Gaffurio, who was born in 1451, and was musical director to Ludovico Moro in Milan. According to Vasari, the great artist had gained renown as a lute player, and characteristically of his inventiveness had constructed an instrument of silver in the form of a horse's head, and his playing on it enchanted the Duke. The cleaning of the picture has further manifested from the treatment of the details that the portrait is a genuine work by the Milanese master.

The Board of Education has issued instructions concerning the design and fittings of secondary schools and pupil teachers' centres. It is declared to be undesirable to lay down any hard-and-fast rules respecting planning. Variations from the principles will be carefully considered, and if it is found that they provide satisfactorily for the requirements of scholars they will be approved. The Board will discuss, if required, schemes for new buildings while in a preliminary stage with the promoters. A classroom is not to be designed for less than fifteen scholars or more than thirty. Every school is to be provided with a gymnasium, a proper dining-hall for day scholars as well as for boarders, and common rooms for masters and scholars for use out of school hours. Libraries and infirmaries are mentioned as essentials to every boarding-school. In boarding-schools for more than eighty boarders it is suggested that there should be separate boarding-houses for not more than fifty in each house under the charge of a master. Playing-fields to the extent of three or four acres should be provided for small schools, increasing proportionately for larger schools, with a paved space for drilling and a covered shed for games on wet days. Before recognising newly-erected premises as suitable for a secondary school the Board must be satisfied, by the submission of plans drawn in accordance with prescribed requirements, that the building regulations are complied with. The promoters must, however, take their own measures to secure that their plans are in order under any by-laws which may be in force in the district in which the school is situated.

Early in the year the Birmingham City Council invited architects to send in sketch plans for an extension of the municipal buildings, which were designed by the late Yeoville Thomason. It was stated that not less than six nor more than ten were to be selected, and that the authors of the designs would each receive an honorarium of 100 guineas upon submitting complete designs in the second and final competition. The plans were to be sent in by March 31. One hundred and twenty-four sets were received, and they were examined by the assessors, Sir Aston Webb, R.A., and Mr. E. Ingress Bell. Each plan was numbered as received, and a similar number was placed upon the envelope containing the author's name. Ten designs were selected. Two are by Birmingham firms, viz. Messrs. Crouch, Butler & R. Savage, and Messrs. Mansell, Mansell & Dixon. One set is from Liverpool, and is by Messrs. Matear & Simon. Seven of the designs are from London offices, viz. Messrs. H. V. Ashley & Winton Newman, Greenaway & Newbery, H. T. Hare, E. P. Howard, A. N. Prentice, Treadwell & Martin, Wills & Anderson. The second competition will now be entered on.

In the history of the steel trade the name of Sir John Brown, of Sheffield, merits prominence. His steel plates for armoured vessels helped to revolutionise the Navy. In the course of a few years his firm were able to produce plates which were 15 inches thick instead of 4½ inches. As became a wealthy manufacturer, he erected a fine house outside Sheffield. Endcliffe Hall stands on an elevated site, and is supposed to have cost more than 100,000*l*. After it was left a tenant could not be found to keep up so costly a property, and in 1895 it had to be sold to a local company for 26,000*l*. It proved convenient for people who wished to give garden parties, receptions and entertainments of various kinds. But the income derived in that way was insufficient, and it now appears that the hall with five acres of land can be obtained for 10,000*l*. Mr. C. B. Flockton, architect, has been endeavouring to form a small limited company in order to purchase the hall and grounds. If it stood in the neighbourhood of London the County Council would lose no time in securing the property. But the Sheffield authorities are less venturous. If the building cannot be utilised it would be better to have it demolished without delay. For a "Folly" of that kind always serves as a warning against the erection of costly residences.

A NEW SAN FRANCISCO.

IF, as the schoolbooks teach and the old Romans believed, the spectacle of a courageous man struggling with misfortune gave pleasure to the gods, what is to be said of the thousands of men who are working bravely in San Francisco with the resolution to reconstruct that city and to make the new capital of the State superior to the old? The history of building presents many examples of energy. Yet the Old World cannot point to one which in sublimity approaches what is now to be witnessed in San Francisco. The deplorable Fire of London which began near Fish Street on September 2, 1665, was only an affair of three or four days, and there was no earthquake to increase the misery. Nevertheless nearly a year was allowed to elapse before any definite steps were taken to rebuild the city. There was so little public spirit shown at the time that London still suffers through the selfishness which then prevailed. It was proposed to select some trustworthy persons who would have made arrangements for leasing or selling building sites according to a definite plan. Private interests, however, conquered, and in consequence, as Pepys says, "the streets were built by fits, and not entire till all differences be decided." The Americans have more common sense than to imitate English precedents. In San Francisco, moreover, there is the advantage that the lines of streets are mainly laid out at right angles. North of Market Street there is only one thoroughfare that differs from the general direction. South of Market Street the streets are parallel to it, and are intersected at right angles. In the old city of London an arrangement of that kind was unknown. As we can still see from those parts which have survived, the streets seem to have been constructed bit by bit, as if the owners or leaseholders had the sole control of the lines. There is little difficulty in a town laid out like San Francisco and many others in America in following the former lines of the streets with exactitude. The system of planning may not be picturesque, but it meets the requirements of Americans and offers facilities for business. If it is considered desirable to change the direction of streets, that can be done without much trouble, as the rectangular system will be retained. Baltimore, which lately was supposed to present opportunities for improved streets, suggests the readiness of Americans to accommodate themselves to the necessities of the occasion. Where changes of streets were thought to be advisable few obstacles were raised. However, Baltimore was a comparatively ancient city, for it dates from 1729, while San Francisco was of no account before the end of 1849. The land was laid out on principles seldom recognised by the early authorities of Baltimore, and a revival of the lines cannot cause either delay or trouble in San Francisco. It may therefore be assumed that the chief business houses will in the new city be found standing in the positions which they formerly occupied.

Whether the public buildings and the railway stations will retain their old sites is another question. But the authorities will find it an advantage to decide promptly upon their arrangements. There are a great many people who, although they might not be able to plan a simple dwelling-house, consider themselves competent to lay out the largest cities. In England they abound, and are fast becoming a rather perplexing species of humanity. The necessities of San Francisco must be well known. It is a great place for trade which will become greater, especially under the new conditions of business with the East. Commerce apparently will long be paramount in it and must be respected. As happens with Manchester and Liverpool, the city is only used during the day by those who live in the picturesque environs, and that being the case the problem is simplified. San Francisco, which was neglected until gold was discovered near it, and then induced most of the inhabitants to desert the small town, is now one of the great seaports of the world. No other port has more advantages, and it would be absurd of the authorities if they imagined that it might be converted into a show place. If however they can expend ten millions sterling on display, Mr. D. H. Burnham last year prepared plans which should serve.

It is impossible in the week which has elapsed since the catastrophe to speak with any certainty about the resistance offered by different building materials. The circumstances were most complicated, for in addition to the terrible force of the earthquake there were fires to an extent which seems to have exceeded experience not only in San Francisco but in other American cities. The accounts of the effects, which were written amidst a tumbling city, could not have the precision desirable when we have to judge either of materials or of construction. In the early years of the city there was an apprehension of earthquakes, and consequently wooden buildings were preferred.

According to the latest accounts the buildings which have most successfully withstood all the strains are the steel-framed structures. This would be satisfactory, if true, for several reasons. In the first place, it would show that theoretical calculations can sometimes correspond with prophecies. San Francisco was about the last of the American cities which favoured frame construction. Not even speculators were free from the fear that sooner or later earthquakes would occur, and tall office buildings would not only cause more fatal results by their downfall, but the financial loss would also be excessive. It required much demonstration of the advantages of steel structures in case of an earthquake before the *Chronicle* buildings and the Croker and Mills Buildings were raised. They were taken as precedents, and in 1897 the nineteen storeys of the Spreckel's Building were constructed with a height of 300 feet. The year afterwards there was undoubtedly an earthquake, and the last building was believed to have swayed. But the breaking-up point was not reached. After such a trial of stability, there could be little force in any objection to the system.

It is, therefore, not improbable that the more important of the high buildings which were erected since 1898 in San Francisco have demonstrated that the system of steel framing is adapted for districts which are liable to extraordinary force. In Japan wooden framing has repeatedly been found to remain when construction of heavier kind succumbed. From the telegraphic messages which have appeared, the general resolve has been to use steel columns and beams in the rebuilding of the city. To facilitate construction, it is said that orders have been sent to this country and to Germany for material. It is also believed that the import duties on rolled steel will not be levied. The Americans have had so much experience in high building construction, they would be able within the year by erecting a number of buildings to completely transform the present confusion. Six months may be considered as the average time required for one of the great office buildings in Chicago and New York. Under pressure still more remarkable rapidity could be displayed. In Europe there will be a general desire, whatever kind of building is adopted, that people who have displayed so much energy in dealing with a calamity will be able to recover themselves and to carry out their work as in the days before the earthquake.

In the earthquake at Lisbon in 1775 it was found that the most solid buildings were the first to fall. Every parish church, convent, nunnery and public edifice was either thrown down or shattered. Both the king and the people were in such despair that a long time must have elapsed before any efforts were made for the removal of the ruins if it were not for the extraordinary energy of Pombal, the Minister. It now seems mysterious that Pompeii, which at one time was believed to be essential to the existence of well-to-do Romans, was allowed to remain for nearly seventeen hundred years without any effort to remove the lava. Some of the inhabitants may have returned in order to carry off such treasures as were obtainable. But no attempt was made to restore the city. With all their energy the Romans seem to have been paralysed by the spectacle, or to have accepted it as if it were an inevitable fatality for which there was no remedy. At the time of the Fire of London, which foreigners seemed to think was a judgment from Heaven, the citizens made no efforts to quench it, but ran about screaming as if they were distracted. If it were not for the garrulous Pepys, who wrung from the king authority to pull down houses in order to isolate the fire, the destruction would have been far greater. With such examples before us the conduct of the Americans becomes heroic, and demonstrates at least that the vigour of some races of humanity has not deteriorated under modern influences.

GARDEN DESIGN IN ITALY.*

When Vanbrugh was engaged in the creation of Blenheim, he was asked about the kind of garden which would be required. He advised that a landscape-painter should be consulted. According to Reynolds, the architect sought after painter-like effects in his buildings, but he had the good sense to realise that even his picturesqueness would not be sufficient for the treatment of the garden that was to be an adjunct to his palace. If Vanbrugh hesitated about such a commission, we may well smile at the hardihood of some of the men who are prepared at the shortest notice to produce an architectural or an Italian garden, as if the task were as easy as the designing of a factory or other business premises. Vanbrugh, however, attempted some architectural preliminaries for the garden, but they did not meet the taste of the owners, and were shortly afterwards removed.

Vanbrugh, we may assume, as he was as much a literary man as an architect, was acquainted with the history of Italian gardens, and must have been aware that before landscape-painting was recognised as a special branch of art great artists did not consider it was undignified to prepare drawings for the creation of a garden and to have superintended the work. Michel Angelo, Raphael and Giulio Romano were among those who wished to combine art with nature. But although names are not always forthcoming we cannot imagine that more ancient gardens in Italy, of which descriptions have been preserved, could have been laid out by men who were without experience in art. There are many elements of the Loggie of the Vatican by Raphael which recall the paintings of the gardens of Herculaneum and Pompeii, and which Raphael found repeated on the walls of the Baths of Titus and had the good sense to employ as a foil to graver pictures. As for Giulio Romano, he co-operated with Raphael in the Villa Madama, and, according to Vasari, very willingly took charge of the gardens, loggie, fountains, groves and every other ornament that could be devised. There was no more versatile artist, and apparently in beautifying grounds he took care that his works should increase the salubrity of the place.

The Italians of the time when those artists lived looked on themselves as the successors and representatives of the ancient Romans, who had despoiled Greece of so many statues that accommodation for them could not be found within houses. Winckelmann, in describing Hadrian's villa at Tivoli, says that all the museums of Europe were enriched with statues which were excavated there, and that enough must have remained beneath the soil to satisfy the desires of future generations. A large number of statues and busts, he says, have been found at all times in the gardens of Sallust in Rome, and as much may be said of many other places. At a later date, if antique works were not forthcoming, there was an abundance of sculptors who were prepared to produce statues which would continue the ancient traditions. The descriptions which Evelyn gives of the Italian gardens suggest the impressions which they must have made on strangers. He refers to the Villa Borghese as an Elysium of delight. Round the house, he said, is a baluster of white marble adorned with a multitude of statues. At Prince Ludovico's he describes the ground as exceedingly large considering it stood in a city, and in every quarter of the garden were antique statues. Of the Horti Matthæi, he says:—"I was told it was inferior to no garden in Rome for statues, ancient monuments, aviaries, fountains, groves, and especially a noble obelisk, and maintained in beauty at the expense of 6,000 crowns yearly, which if not expended to keep up its beauty, forfeits the possession of a greater revenue to another family; so curious are they in their villas and places of pleasure, even to excess." This statement of Evelyn is a revelation, and as other gardens may have been held under a similar tenure, we can understand why so many of them have been preserved. At one time it was supposed that all those gardens must have been stiff in order to correspond with the lines of the architectural structures that formed part of them. But Sir Henry Wotton, who was well acquainted with Italian work, pointed out that there was a contrariety between building and gardening, for while the former should be regular, gardens ought to be the reverse, or at least arranged with a very wild regularity.

Those who take only an occasional view of an Italian garden are apt to agree with Wotton about irregularity. They see a magnificent spectacle in which nature and art appear to be contending, and where colour is likely to be supreme over form. The series of measured plans which appear in Mr. Inigo Triggs's grandiose volume reveal the wonderful care which was taken to keep up the delusion that nature and accident were the controlling forces. Sections are also given which enable us to understand the reasons for the numerous steps which are so common a feature in Italian gardens and of which Wotton explains the reason. "I have seen a garden," he says, "into which the first access was a high walk like a terrace, from whence might be taken a general view of the whole plot below, but rather in a delightful confusion than with any plain distinction of the pieces. From this the beholder, descending many steps, was afterwards conveyed again by several mountings and vailings to various entertainments of his scent and sight which I shall not need to describe—for that were poetical; let me only note this, that every one of these diversities was as if he had been magically transported into a new garden." The English diplomatist in these words has suggested some of the peculiarities of Italian gardening, and we become more surprised when, by Mr. Inigo Triggs's plans, we see the consummate science which dictated the arrangement. The plans alone are a revelation to people who live at a distance from Italy, and they impart a practical character to the book which is not found in any of those which have appeared of late years.

In addition the author explains how some of the effects have been produced. Water has been called the eye of a landscape garden. But in Italy fountains and cascades are made to give animation to the scene, which without them would resemble a sleeping beauty. Isola Bella, on Lake Maggiore, is one of the most admired of Italian gardens. Water, of course, is introduced, and there is a water theatre. We are told that "underneath the platform is a huge storage tank, which is the *raison d'être* of the whole mount. Water is pumped from the lake, and from this point supplies the whole of the gardens and fountains. The machinery and pumping plant still exists in one of the two hexagonal pavilions on the south side of the mount. On the opposite side a corresponding pavilion was sumptuously fitted up as a garden house, with rusticated angle quoins and a crowning balustrade beset with statues." If provision had to be made by tanks to afford supplies in dry weather, in some places pergolas had also to be introduced on account of the heat. In describing a villa in the environs of Genoa Mr. Inigo Triggs says :—

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* *The Art of Garden Design in Italy*. By H. Inigo Triggs, A.R.I.B.A. Illustrated by seventy-three photographic plates reproduced in collotype, twenty-seven plans, and numerous sketches taken from surveys and plans specially made by the author, and twenty-eight plates from photographs by Mrs. Aubrey le Blond. (London: Longmans, Green & Co.)

> At Sanpierdarena were many of the best villas, all planted upon the hillside and overlooking the sea, with wonderful expanse of view and bold mountain scenery. The situations were in many respects not well suited to garden making, the soil being barren and rocky, and exposed to the sweeping winds of the Mediterranean in winter, and the parching sun-glare of summer. Under these conditions the designers had to resort more especially to architecture in order to obtain their effects, and instead of the "bosco," which is so generally to be met with elsewhere in Italy, we find a very extensive and charming use of pergolas, in order that all parts of the garden might be reached in shade. At the Villa Fransone the pergolas formed long wings on either side, terminated in summer-houses, and enclosing small gardens on rather sloping ground. The Palazzo Durazzo at Zerbino had a series of pergolas arranged on terraces below the casino. The fresh green foliage of the vines in spring time, and lovely colour-tones of purple, mauve and brown in autumn, are never shown to better advantage than when arranged upon a pergola.

The pergola is used in the Certosa Pavia, and the plate given of the cloister garden of the great monastery is one of the most charming in the volume. Mr. Inigo Triggs is not satisfied with describing in detail about forty of the principal gardens in Italy. He also gives an important historical introduction describing the progress from the beginning of our era. There are 128 large plates, besides plans of gardens, half-tone plates from photographs and old prints, and a large number of illustrations in the text. The author has already proved his competence for such a work by his volume on English and Scottish gardens. He has had the benefit of suggestions from the Baron H. von Geymüller, Professor Lanciani, Signor Beltrami, Mr. Marion Crawford and Miss Janet Ross. He acknowledges his obligations to Mrs. Aubrey le Blond for the photographs. In preparing them the lady "has frequently been handicapped ; for the points of view chosen have often been selected more to show the general disposition of the gardens than to obtain the most artistic result." The book is creditable to all engaged in its production, and is worthy of its entrancing subject. The typography by Messrs. Spottiswoode & Co. would satisfy the most fastidious of the old Italian printers. If we believe Sir Walter Scott, the garden had much to do with the advance of architecture, for in connection with it banqueting-houses were erected, terraces extended and connected with staircases and balustrades of the richest forms. The garden was in fact a sort of chapel of ease to the apartments within doors. On that account a book like Mr. Inigo Triggs's will have use for those who may never be called upon to design an architectural garden. In the Italian structures which were connected with the old gardens, greater freedom was allowed than in the villas. We consequently see Renaissance architecture of a kind which does not always correspond with what is seen in the buildings in towns. Apart from use, the plates are delightful to consider, for never was art and nature so satisfactorily combined as in Italian gardens.

An Interesting Find has been made in the floor of the tower of Pancraswyke Church, North Devon, during the process of restoration. Some years ago the base of the old cross was found, but the shaft was wanting. Now there have been unearthed three steps of octagonal shape made of granite, and with edges beautifully moulded, and a square slab upon which the base doubtless rested. The shaft has not yet been found, but diligent search is being made for it. The structure was possibly used as a preaching cross when only the chancel of Early English architecture was in existence.

COTTAGE, NORTON WAY, FIRST GARDEN CITY, LETCHWORTH.

THIS cottage has been designed to meet the requirements of a cheap substantial building to cost not more than 250*l*. The walls and partitions are built with grooved Flettons, the external walls rendered with cement, finished with pebble dashing, the upper part coloured a light cream and the lower a natural grey. The woodwork is generally square or chamfered, the external woodwork stained a dark oak and varnished. The ground floor is finished with cement floated face, for cork lino. The roof, a concrete flat constructed with small steel joists 3 feet apart and coke breeze cement concrete, covered with two layers of half-ply Ruberoid cemented down. The eaves project 2 feet 3 inches all round. It was originally intended to have a battened and local-tiled roof, but it was found by the use of a flat a saving of 24*l*. 10*s*. was effected. Height of all rooms is 8 feet 6 inches clear. The cube of building is 18,454 feet, measured from top of concrete foundation to top of flat. The contract price is 240*l*., which is about 3⅛*d*. per foot cube. This price includes drainage and the house decorated and ready for occupation. Messrs. Tapperell & Haase are the architects. The builder is Mr. W. R. Castle.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W., Mr. E. T. Hall, vice-president, in the chair.

Mr. Alexander Graham, hon. secretary, announced the decease of Mr. R. A. Bryden, of Glasgow, elected Fellow 1878, and Mr. W. Goldsmith, Associate, elected 1882.

Messrs. Geo. P. Bankart and Laurence A. Turner read papers, illustrated by photographs and lantern views, on

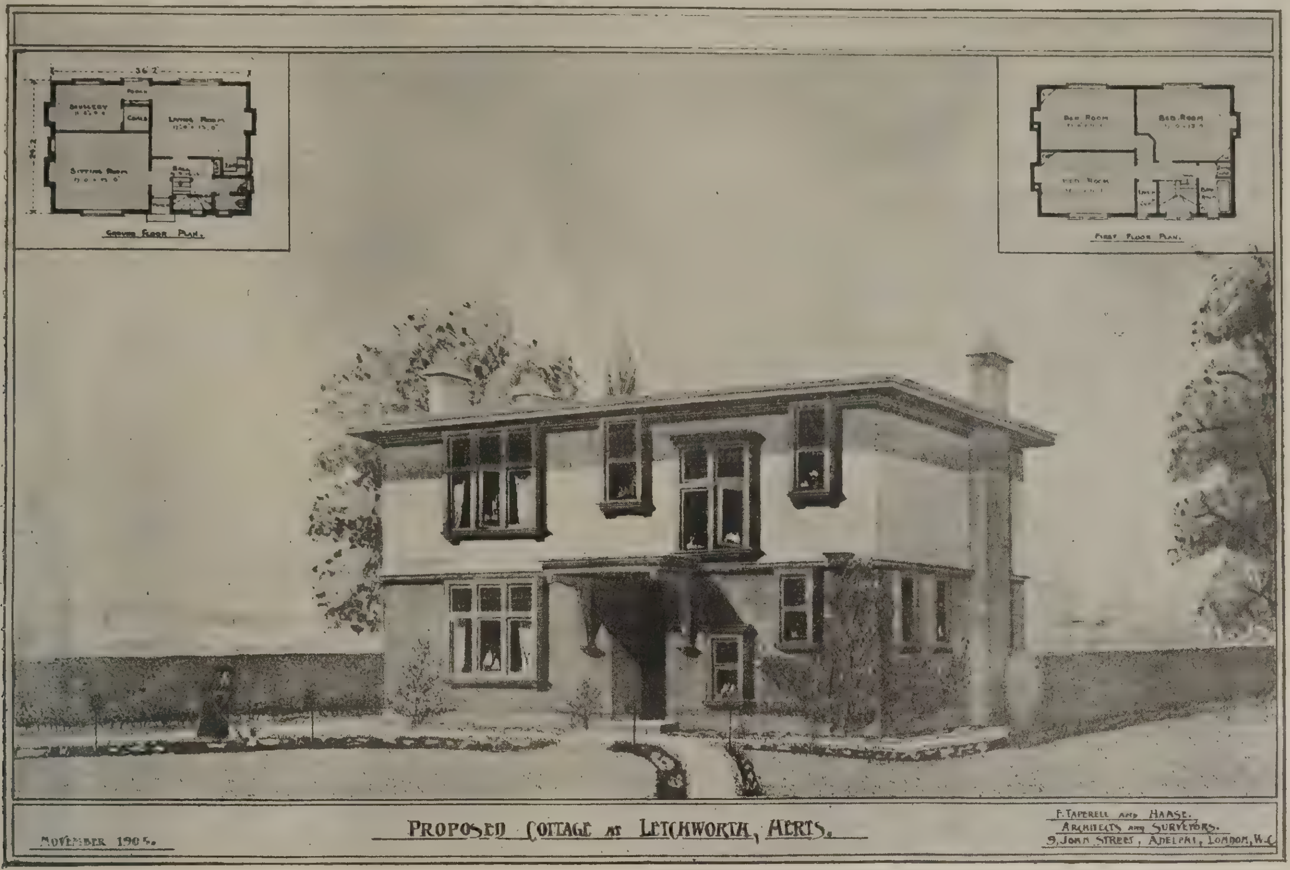
Plasterwork.

Mr. Bankart said that plaster had so long been looked down upon for its modern commonplace vulgarity of treatment that it seemed almost incongruous to think of it as a vehicle of art. Any really healthy revival seemed only seriously possible by again reverting to the beginnings, by the gleaning of some of that simple impulse which urged the artists of the past to find expression in materials and methods most in sympathy with their own nature, and in the right and full development of those methods.

What, the author asked, are some of the abstract points of value to be gathered from a general rumination amongst all the accumulated wealth of the labour of men's hands in the application and shaping of a kind of mud in or on buildings, and what may we rightly take to heart in pursuing or in attempting to give fresh hope and vitality to modern plasterwork ? The shadow of the first half of the first century A.D. revealed to us remnants of modelled wall and ceiling decoration of a beauty, subtlety and delicacy never since surpassed or even approached. It spoke to us of the extraordinary decorative instinct of the Greek and Roman in the combination of extreme simplicity of line and surface with refinement and power of execution. For the plasterer the lessons to be learned from these fragments of decorative art can never be too plainly noted or too highly praised. The stucco of the Romans tells us of their investigation, their admiration and of their imitation. This imitation was not the copying of the form, but of the spirit, of the art of the ancient Romans and Greeks. We of the twentieth century have our own religion, our science, our folklore, our national virtues, our industries and manufactures to embody in our art.

Tracing the history of the plasterer's art through Renaissance times, and speaking of the results brought about by the changes in building construction, the author demonstrated that each one of these developments had its marked effect upon the decorative art of the plasterer. From each of these stages it would be found that the plasterer produced his best work when the particular kind of plaster he used, whether stucco, parge, or plaster of Paris, was worked in its own particular plastery way, and was not forced into simulation of carving in marble, stone or wood. The success of his art seemed best assured when his material was put to the fullest right use without abuse.

To the question, Did the Classic or the Renaissance



architect consider whether the methods then employed were legitimate or no? the author was inclined to suggest the negative, but that they were accepted as the most convenient and durable methods of expression then known. The primary object of the decoration of a ceiling, or of a wall, as in all decoration, was the giving of pleasure to the eye. The construction of the ceiling had undoubtedly its bearing on the design, but once the impression of sufficient support and strength satisfied the artist, he vied in his emulation to obtain the praise of the patron (eager to outshine his rivals); and to do this, while framing his work with due respect to reasonable economy, he thought chiefly of his enrichment, treated in the language of the time. This point concerning right or mistaken method, whether past or present, had an important bearing on all workmanship. Had the artists of the Italian Renaissance known of the method of casting from moulds of flexible gelatine, the author thought that they as artists would have carried their method to a much greater pitch of perfection, and not so much in mechanical skill as in suiting their forms more particularly to the advantages of the mechanism. He claimed for plaster at least that respect and technical liberty which is due from the artist to any other material or medium of expression, whether the surface of operation be large or small. He believed each period of the art of the plasterer should be regarded on its own merits in combination with the peculiar circumstances and efficiency or inefficiency existing, according to the peculiar materials that it was then most convenient to procure and to manipulate. If mechanical skill be the plasterer's diploma, then should the twentieth century be able to dim the glories of the Italian Renaissance; but we must go back again to simplicity of line, of form and of spirit, in the giving of pleasure with our money's worth. If this object is unattempted and unaccomplished, or undesired by the lack of knowledge of the sense of beauty on the part of the people and of the worker, then the world will be so much the poorer by ignoring not only the art of the plasterer, but all of the lesser arts.

Mr. Laurence A. Turner took for his subject "Decorative Plaster Ceilings," which he divided into two broad divisions, lime-plaster and plaster of Paris. These two materials, he said, required widely different methods in their use. As to which gave the most satisfactory plasteresque result there could not be two opinions. Lime-plaster must take the first place, and ceilings in this material must be modelled *in situ*. The quality we should try to reproduce in plasterwork is that which we find in the Elizabethan and Jacobean lime-plaster ceilings. These form the best models and standard of work for the art. Most are of lime-plaster; but there is no reason why the same effect should not be produced with plaster of Paris. The chief quality that made the old plasterwork so charming was the exceedingly soft, delicate and subtle play of light and shade that was produced on its modelled surfaces. In modern work it is the hardness of line and sharpness of shadow, dead flatness of the unornamental surface, that make it so dreadfully dull. The most satisfactory results in any plaster-decoration we possess are those in which there is no undercutting except in detached ornaments. Therefore it is necessary, in modelling a ceiling, to avoid all undercutting, hard edges and rigidity of line. Court everything that is the reverse of these qualities—softness, rounded contours, soft shadows, breadth of surface and extreme modulation of line and surface. Plasterwork worthy of the name must have the quality of softness. Every atom of it should be modelled. There should be a subtle play of light and shade all over it. The plain spaces as well as the mouldings and foliage should be alive with delicate modelling, and not dead and cold like the early Victorian ceilings. With the many new methods and materials discovered since that Utopian period for plasterers between 1400 and 1600, what can be done, the author asked, to produce a fine, satisfactory, decorative result at a reasonable cost? To make a ceiling nowadays in lime-plaster, using only the methods that those old people used, it is useless to imagine that anything can be done that is not very costly. Besides, the difficulty of obtaining the properly slaked lime renders it almost impossible to model the plaster with the fingers. Tradition says that twenty years was not an out-of-the-way time for the lime to be slaked before use. The author advised the use of Keene's cement if well-slaked lime was not procurable. In ceilings he had modelled *in situ*, in which Keene's cement had taken the place of lime, he had always mixed silver sand and size with it, the latter to prevent the cement from setting too quickly. He did not personally incline to the method of modelling in plaster *in situ*. He preferred to model the ceiling on the bench, in Keene's cement and sand, and to use his fingers only. When the model is finished a mould of plaster or gelatine is made from it, and the work cast in fibrous plaster. If there is a doubt about the amount of relief required it is easy to put up a cast *in situ*, and there is the advantage of being able to repeat the pattern instead of having to model the whole ceiling. Another advantage is that, by using sand with the cement, one can by using a coarser sand, and more of it, prevent the work from becoming too small in detail or too elaborate in finish, for the material will not allow of it. Another advantage of fibrous plaster over lime is that the ceiling is three or four times lighter, and will not crack or fall, as the lime-plaster on laths sometimes does. The author confessed his partiality for ribbed or panelled ceilings, the method of construction of which he described in detail. Their beauty is chiefly dependent upon the modelled effect they should possess, the ever-varying play of light and shade of a most subtle kind. Very great care must be taken in modelling the plain ground for this type of ceiling, as the richness of effect is chiefly dependent upon it. The practice of using moulded wooden ribs, dividing up a ceiling into panels and painted white to appear like plaster, he strongly deprecated. It had the result of bringing a ceiling down and making it look heavy, whereas a well-modelled ceiling of plaster does the reverse, making the room look lighter and giving a sense of greater space.

The ceilings of Wren's date, although very beautiful, depend upon their design for their beauty and not upon that quality which is peculiar to plasterwork. They might equally well have been carved in wood or plaster. The Adams ceilings made, the author believed, entirely from carved wood moulds or carved wooden models, are hard and uninteresting, though very refined; they depend for effect entirely upon their design and not upon modelling.

With regard to the question as to how far the architect should supply drawings for a ceiling, the author thought that nothing more than a small-scale drawing indicating the type of work he required should be given to the modeller; more than that only hampered him. The architect should supervise and criticise the models, but unless the modeller did the details himself the result would probably lack life and freedom.

The author, in conclusion, emphasised his view that if a plasteresque effect be wanted the whole ceiling should be softly modelled, mouldings as well as ground; but if that was not to be, then let it be, frankly, carving produced in plaster.

Professor Baldwin Brown proposed a vote of thanks to the authors of the two papers. The historical side, he said, had not been dealt with as had so often been the case in previous meetings. The history of plasterwork was interesting because the most ancient nations were perfectly familiar with the material, and used it in the utilitarian sense, though they did not realise its artistic possibilities. The Greeks used terra-cotta where we should use plaster in decorative work. It was sometimes suggested that there was a gap in the use of plaster between Classic times and the period of the Renaissance, but the speaker held that the fine examples of Mediæval work to be found on the Continent proved that there was no real break in the decorative use of the material.

Mr. W. H. Atkin Berry seconded the vote of thanks.

The Chairman, in terminating the proceedings, announced that a special general meeting would be held on Monday, May 7, when the Chairman will bring forward a resolution that the President and members of Council do retain office until the conclusion of the congress to be held in July, and that by-law 30 be temporarily suspended to enable them to do so.

By-law 30 limits the tenure of office by members of Council to the close of the last general meeting in June of the year following that in which they were elected.

NATIONAL ART COLLECTIONS FUND.

THE annual report of the executive committee of the National Art Collections Fund has been issued. The King has consented to allow his name to appear as patron. The report describes the negotiations for the "Rokeby Velasquez," which was purchased in January from Messrs. Thomas Agnew & Sons for the sum of 45,000*l*. According to the report:—

"On the understanding that the picture should go to the National Gallery, Messrs. Agnew offered it for 45,000*l*., at which sum they undertook, if requested by the committee, to repurchase it at any time during the next two years. Such a contingency can, of course, no longer arise. The committee fully recognised that it had no right to demand information from Messrs. Agnew as to their outlay on the picture, and that there was no obligation on them as vendors to supply it; but Messrs. Agnew voluntarily furnished information of a confidential nature as to the total cost of the picture to themselves, including commission, interest and their other expenses. With the particulars thus placed at its disposal, the committee came to the conclusion that the price asked was justified. The committee, moreover, had reason to believe that the amount asked was substantially smaller than other intending purchasers were prepared to pay. It was, therefore, necessary to decide whether to allow the picture to go abroad, and thus meet with the fate of so many art treasures from private galleries in England, or to issue a public appeal for the money necessary to secure it for the nation. The committee unanimously decided to make the appeal. Generous contributions were promised to the committee, including 10,000*l*. from 'An Englishman' (through Mr. Herbert Cook). Lord Michelham contributed 8,000*l*., while other large sums, as set forth in the appendix, were guaranteed. Messrs. Agnew then gave the Society time to collect the balance of the purchase price, extending the time limit on two occasions, and themselves contributing 5,250*l*. His Majesty the King was graciously pleased to express his approval of the efforts made by the Society to secure the picture, thus removing many difficulties and giving much encouragement to the committee. On March 14, 1906, the 'Venus and Cupid' was handed over by the Society to the Trustees of the National Gallery as a gift to the nation. It has now been hung on the western wall of the Spanish Room, between the full-length portraits of Philip IV. and Admiral Pulido Pareja, and bears the official number 2,055. Up to the date of publishing this report, the sum of 1,700*l*. still remains to be collected in order to complete the purchase price, for the payment of which sum further time has been extended to the committee. It is, however, desirable that this liability should be discharged as soon as possible in order that the Society may be free to work in other directions."

Other acquisitions include Whistler's "Nocturne in Blue and Silver" (Old Battersea Bridge), which was purchased by the fund from Mr. Robert H. C. Harrison for 2,000*l*. and presented to the trustees of the National Gallery in July of last year; an oil-painting by John Sell Cotman, A.R.W.S., showing a cottage, figures and boat, which was presented to the National Gallery of Scotland in August 1905; drawings by Jacopo Francia and Timoteo Viti, presented by Mr. Max Rosenheim, through the fund, to the British Museum; a Rhodian ware jug with silver-gilt mounts, of the second half of the sixteenth century, bearing the hall-mark of the town of Utrecht, now exhibited in the Victoria and Albert Museum; an Italian majolica albarello or pharmacy jar, probably of Florentine manufacture, *circa* 1460, purchased in October 1905 and presented to the British Museum; and two drawings by Auguste Rodin, presented to the fund by Mr. Claude Phillips, and now in the print-room of the British Museum.

GLASGOW INSTITUTE OF ARCHITECTS.

THE annual general meeting of the Institute was held in the rooms, 187 Pitt Street, Glasgow, Mr. John Keppie, president, in the chair. The President referred to the death of Mr. R. A. Bryden, who was one of the original members of the Institute, having joined in 1868, and it was agreed to minute an expression of deep regret. The secretary submitted the annual report, which stated that during the past session the Council had been actively engaged with the arrangements in connection with the scheme for amalgamating the Glasgow Architectural Association with the Institute. The attention of the Council was called to the undue proportion of unpaid apprentices employed in many architectural offices, and, as the matter was considered of special urgency, a circular calling attention to this was issued to the members of the Institute, asking them to adhere as far as possible to the practice of employing one apprentice only to each draughtsman. The Council desired to call attention to the facilities for study which were available in the recently established Glasgow School of Architecture, conducted by the Technical College and the School of Art. With reference to the reconstruction of the Royal Infirmary, the report stated that the proposal to employ terra-cotta had, it was understood, been departed from. The report was adopted. The President, in his valedictory remarks, referred to the subject of registration as perhaps the most important matter before the architectural profession at the present time. Although the scheme for amalgamating the Glasgow Architectural Association with the Institute had not yet been formally carried out, he hoped the matter would be completed at an early date. The Council for the ensuing year was elected as follows:—Messrs. A. N. Paterson, John Keppie, H. K. Bromhead, James Lindsay, T. L. Watson, James M. Monro, Alexander M'Gibbon, Andrew Balfour, Charles Gourlay, Thomas Baird, jun., R. D. Sandilands, George Bell, Alexander Skirving, Robert Miller, John B. Wilson and H. E. Clifford. The treasurer's accounts, which were submitted and approved of, showed that the funds were in a satisfactory position. A meeting of the newly-elected Council followed, at which office-bearers for the year were appointed, viz.:—President, Mr. James M. Monro; vice-president, Mr. George Bell; auditor, Mr. Alexander Skirving; secretary and treasurer, Mr. C. J. MacLean. The various committees for the year were also appointed.

CULROSS ABBEY.

A LECTURE was delivered in the Stephen Memorial Hall, Culross, on the 19th inst., by Mr. John L. Anderson, who has charge of the restoration of Culross Abbey. At the outset, Mr. Anderson, says the *Dunfermline Press*, explained that, after many requests, he had decided to let the people of Culross—those who were intelligently interested in the restoration—have an opportunity of hearing what he had to say on the subject. Notwithstanding the unavoidable use of technical terms, he was persuaded that, with the intelligent interest with which the residents had watched the progress of the work, they would be able to follow him in his description of it. In the course of restoration there had been found specimens of Celtic and Norman work; with chevron work, interlaced rope work, chain mail, &c.—delicate work to reproduce in stone—which proved that the church must originally have possessed great architectural beauty, besides being of large extent. All that remained of the Celtic or original church, so far as had been discovered, extended from the west side of the old manse gable to the west side of the south tower door. All that remained of the second addition was that portion occupied by the lancet window on the south, and which extended only from the west side of the south door to the west corner of the buttress. With regard to the addition extending eastward to the west wall of the south transept, he said that, while rebuilding the south transept and restoring the west respond of its great arch, there was furnished conclusive proof that at one time this had been an outside corner, and an examination of the inside showed where the wall which had crossed the present nave had been roughly dressed off. The mode of construction of this addition was contrary to custom and the rules of good masonry, the stones being built in high courses and set on edge. Judging by the portion which remained, and upon which a corner of the tower was built, the original wall had tumbled down, and at a late restoration had been faced up with new ashlar and degraded with modern windows. At the restoration to which he referred a gallery door had been slapped out in the east wall of the tower, which had been wholly "unsalved" or lintelled. The south tower door, which had been arched over, suffered similarly by the same ruthless hands, which had materially lessened the stability of the tower, and it might be necessary at no distant date to erect a flying buttress at that point to support the tower. The next addition to the nave extended to the east end of the transept, or rather on a line with the east wall of their aisles. There was only the smallest fragment of this extension remaining. Dealing with the south transept, he said that the two arches which opened into the south transept were insertions. The centre pier between them had suffered severely through vandalism and superstition. The vandals had almost totally destroyed the base at the respond of the main arch, and also a portion of the work above. On examining the foundation preparatory to restoring the work, it was discovered that the foundation, which extended clean across the opening, had been laid with large pieces of black limestone bedded in yellow clay. The foundations beneath the piers had been disturbed, and the whole superstructure had to be supported while the excavations beneath were being made to a depth of about 4 feet. At two places sufficient had been cut away to get the head of a coffin in, others had apparently been satisfied to be buried with their feet against it, and evidently their faith in "that pillar of the kirk" had been too strong for its benefit and safety. In the present restoration there had been put in a substantial foundation of concrete, and the required level had been built up with brick and cement. The base moulding was an exact reproduction of the original, and which was taken from fragmentary parts. The foundation of the respond suffered through modern improvers, the clustered shafts through vandals; and the carpenter, in order to get a rest for a gallery beam, butchered the cope, and just escaped bringing the ponderous arch down upon himself, and later, the congregation. Having condemned the carelessness of former restorers, so far as concerned the walls of the south transept, the lecturer proceeded to say that a curious discovery was made which tended to force the idea that that portion of the church stood roofless for a long period. The wall just over the south-west side of the main arch had been plastered over, and, on a portion being cut away, there was discovered what at one time had been a jackdaw or magpie's nest behind some loosely filled-in stones. In the nest were pieces of mussel shells, heather, twigs, hair and several human ribs, whilst over the arch, when the wall had been rebuilt, were many roots of ivy, of great thickness, decayed. The discovery of an octagonal column and the subsequent discovery of the crypt beneath had assisted in the solution of some problems and intensified others. It proved that the cloister arches had swept around the quadrangle in ogival fashion, and that the octagonal column had belonged to the chapter-house, which was usually a lofty, vaulted apartment. Situated south of the transept, its ordinary form was polygonal or octagonal. In the case of the Benedictine churches it was square. There was a Roman-arched door in the south wall of the transept, which, it was supposed, the monks would pass through on their walk from the cloisters to midnight Mass. Many basilican churches, they were told, were erected out of fragments taken from older buildings, and presented a curious mixture of columns, capitals, &c. The ancient builders of Culross Abbey had faithfully followed the example, for in the heart and foundations of what one might naturally suppose to be the oldest wall, there were found in the present restoration scheme massive and delicate specimens of rich masonry. The west wall appeared to be of older date. Of particular interest was the lecturer's description of the discovery of a large burying vault, the sides of which were built with finely-hewn ashlar. The soil with which this vault was filled had been imported; it was rich in colour and very free, and quite unlike any of our native soils. Within that transept, with the feet below the centre of the north arch of the arcade, there was discovered a stone coffin, with a body completely shrouded in leather and which was in a fair state of preservation. The part enclosing the feet had given way just above the ankles. On examination it was found that the body had been swathed in woollen garments, and the place which the feet had occupied was as distinctly impressed in the shroud as was a strong glove on the hand being withdrawn from it. Just beneath the De Quincy arch a much older coffin was found, called a kistvaen. This coffin might have contained the remains of Roger de Quincy, for his coat of arms was carved on a shield on the keystone of the arch over the grave. At some length the lecturer dealt with the great east window which had now been restored, and he added that the north transept had also been restored with arcade arches to correspond with that of the south. A lady of Culross had kindly offered to fill in with stained glass the north window. The north wall of the nave from the chancel to the tower had undergone many changes, and had suffered by the hands of the barbarian. It was difficult to understand the story that all might read on the west wall of the main entrance to the church. In the first place, that wall was not a part of the original church. It corresponded neither with the south nor the fragment of wall to the north, as regarded bond, style or finish. In conclusion, the lecturer said:—After a long sustained calm, Culross Abbey has been resurrected out of the forgotten past, and invites a critical inspection of her relics, in comparison with the oldest of our nation.

The Estate of Mr. John Price, surveyor of the city of Birmingham since 1896, and who died on March 6, has been returned at 10,634*l*.

NOTES AND COMMENTS.

A position is vacant which should have attraction for many archæologists, viz. the Directorship of the British School at Rome. The salary offered is only 400*l.* per annum, with a residence rent free on the school premises in the Odescalchi Palace. In an office of the kind a man could serve not only archæology but Great Britain. The French and the Germans have succeeded admirably, for there can be no doubt that the prestige of both peoples has been increased by the efforts of the officials who represented them in Rome. England avoided the city through apprehensions that archæology might subserve the interests of the Papal Court, and as a result people on the Continent imagined that Englishmen cared only for the present and were indifferent to antiquity. Applications for the appointment are to be sent to the Secretary of the committee at 22 Albemarle Street on or before May 15.

Among the causes which have produced the depreciation of agricultural land compulsory education has not hitherto been included. But a paper which was read before the Surveyors' Institution by Mr. J. W. Willis Bund, chairman of the education committee of the Worcester County Council, maintained that evil effects have followed in rural districts from the working of the Education Act of 1902. County Councils had to provide not only elementary but higher education, and in consequence rates varying from 6*d.* to 10*d.* in the pound had been created. Owing to the extravagant manner in which the Board of Education required schools to be constructed, and the increasing demands of inspectors, still higher rates would have to be levied. The rural ratepayer would, of course, do all he could to reduce the amount by disregarding the number of children which a school could contain and by seeking for a cheaper class of teachers. According to Mr. Willis Bund, the result of the excessive requirements of the Board of Education would therefore be the smallest possible amount of schooling and the cheapest possible teachers, neither of which would promote education. The Act would also lead to an increased migration from the country to the towns, for unless rates were reduced tenants could not pay the excessive charges. Mr. Willis Bund acknowledged that he could not suggest a remedy. But he believed that the law as enforced was an act of peril to the country. The paper suggests one side of the education question. Whoever will have to pay, it is no longer possible to expect the continuance of the old class of rustics who at one time carried out all agricultural operations. Men who are ignorant do not wish that their children should be brought up in a similar condition, nor are they desirous that they should always live within a very limited area. It may be that the new race of rustics will not be as useful as their predecessors who were unable to read an advertisement of an auction. But in the social revolution in progress primitive ways are doomed to vanish.

The Salon this year will differ in one respect at least from its predecessors. The Minister of Fine Arts has decided that the Government factories are to send some of their latest productions to the exhibition. From the Gobelins will come the large panel after the cartoon of Jean Paul Laurens, entitled *The Apotheosis of Colbert.* That statesman deserves honour from artists, especially from designers and weavers of tapestry, for it was at his recommendation the Gobelins became a public institution. Ostensibly Colbert's object was to uphold the greatness of Louis XIV., but so prescient a man may have anticipated a time when others besides monarchs would find a pleasure in the art. The factory at Beauvais will contribute panels by MM. Cormon, François and Coste. The beautiful pottery at Sèvres will also be exemplified, and especially by some reproductions of eighteenth-century work.

The old complaint with regard to the congested state of the harbour of Alexandria still exists, though much is being done by the port authorities to remedy the evil. New quays for the storage of coal, providing accommodation for ten ships outside the mole, are being built, and a harbour and breakwater at Mex for landing cattle are also in course of construction. New quays for the unloading of timber are to be built at Gabbari. The work has already been commenced, and it is expected that the berths will be ready towards the end of 1908. Owing to the depth of water in the Boghaz Pass being insufficient for large vessels, it was decided some time ago to dredge a second channel. The new pass is to be nearly three-quarters of a mile long, 600 feet wide and 35 feet deep at low water. Dredging operations began last June, and one-third of the work has been finished.

It has been arranged that the International Association for Testing Materials, which holds its congresses about every three years in industrial centres in various countries, shall this year meet in the Academy of Science at Brussels from September 3 to 8. The King of Belgium accords the Congress his patronage, while Prince Albert of Belgium will be one of the honorary presidents, as also will the Ministers of Finance, Railways, War and Trade, and the Mayor of Brussels. The programme of excursions includes visits to the harbour works at Brussels and at Antwerp, the steel works of the John Cockerill Company at Seraing, the arsenal at Mechlin and the harbour works at Zeebruge. Among the papers to be read will be one on the "Industries of Belgium," by Baron E. de Laveleye and M. Camerman. It is expected that a considerable number of members and delegates from this country will be present at the Congress. Mr. J. E. Stead, F.R.S., Middlesbrough, is the English secretary of this Institution.

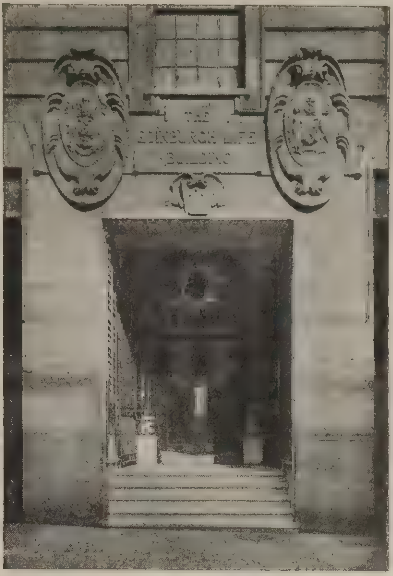
Pinkie House, Musselburgh, which by permission will be visited by the members of the Edinburgh Architectural Association to-morrow (Saturday), is situated amid charming gardens and pleasure-grounds, is a well-preserved and fine example of sixteenth and seventeenth-century architecture, and has many features of very special interest. There is a lofty turreted tower on the west side. The north gable is flanked by massive square turrets, with a balcony between. A fine oriel window is a unique feature in the south front, and the row of lofty chimneys on the west side are most imposing. The well in the courtyard is an elaborate and fine composition. There is a painted gallery, upwards of 80 feet long—perhaps the finest example of this kind of architecture in Scotland—and there are many beautiful plaster ceilings and other interesting details. Afterwards there will be a visit to the church and presbytery of Our Lady of Loretto, Musselburgh.

The British Consul at Stockholm, in his report on 1905, says that at the beginning of the year hopes were entertained that the prices, which then ruled low, might fall no further, and during the course of the season these hopes were justified, except as regards redwood deals. In their case the demands did not correspond with the supplies, and the third and fourth qualities of 3 by 9 inches redwood from the middle of Norrland went as low as 7*l.* 15*s.* and 6*l.* 15*s.* respectively. For other kinds of wood an improvement in prices took place at the end of summer or beginning of autumn—a time when prices often show signs of weakness—whereas in 1905 they manifested a tendency to rise. This was chiefly due to orders received from Germany. Even before the shipping season was at an end buyers there paid for delivery during 1906 10*s.* more per standard for battens and white and redwood boards, these being the goods most in demand in the German markets. The strong impulse thus given by these buyers soon showed its effects in other quarters. Within a short time importers from various other countries began to send in their orders.

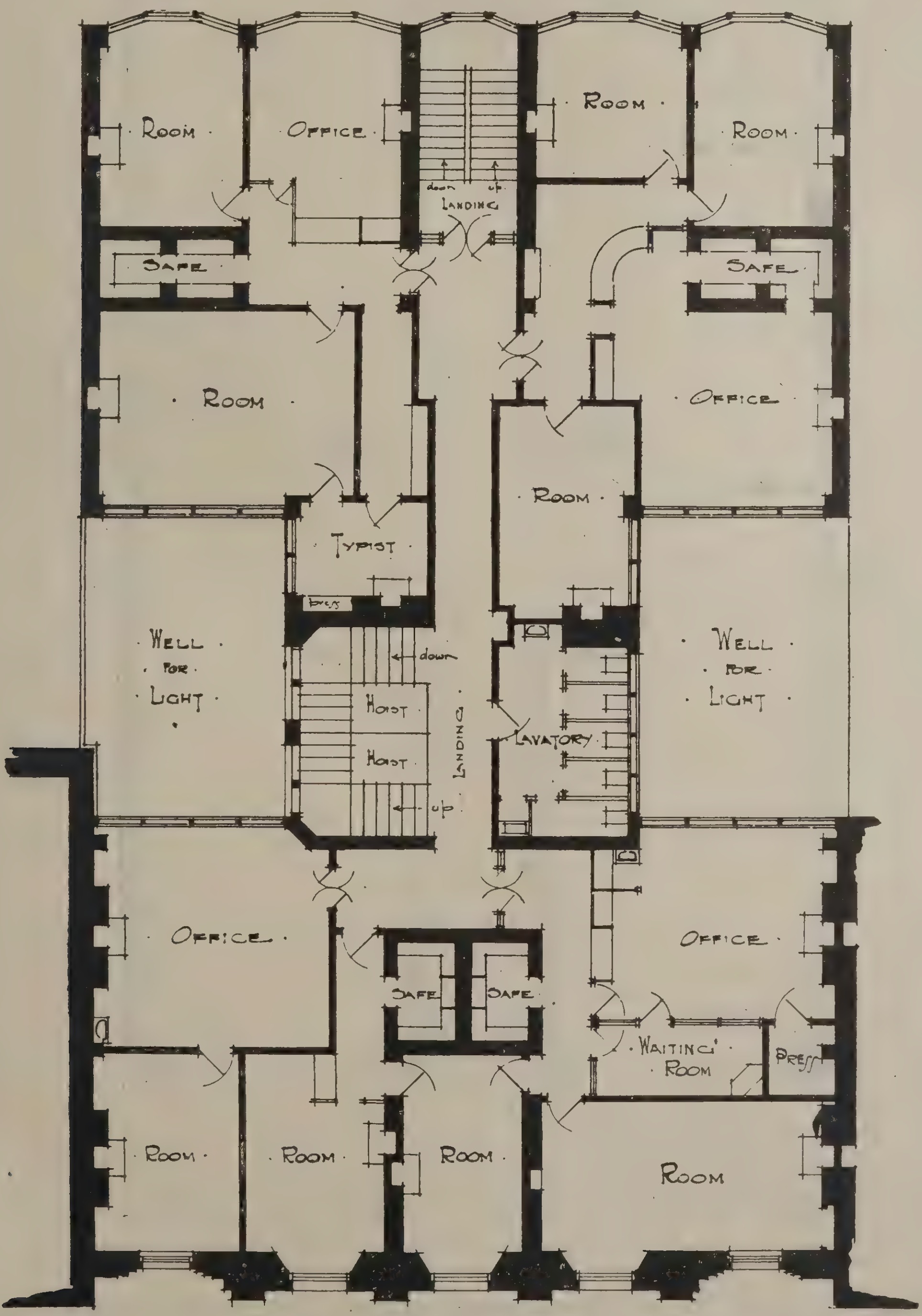
ILLUSTRATIONS.

NEW BUILDING OF THE EDINBURGH LIFE ASSURANCE COMPANY, 122-128 ST. VINCENT STREET, GLASGOW.

THE new building in St. Vincent Street, Glasgow, of which Mr. John Archibald Campbell is architect, was recently opened. The company, which is the oldest of its class in Scotland (Sir Walter Scott was one of the founders), has had offices in Glasgow since 1824. A suitable site having been obtained, the building we illustrate was commenced in 1904. The style adopted is a modern treatment of Italian Renaissance. The front is built of the best white freestone, and the construction throughout has been arranged on the most approved scientific principles, the framework of the interior and the back elevation being of steel. The columns are encased in brickwork and the beams in concrete, making the building fireproof throughout. By the extensive use of steel the maximum amount of window space is gained, a matter of the utmost importance in office property. While the company will occupy the offices on the ground floor, the building has been planned principally for letting purposes, and every attention has been paid



Entrance.



EDINBURGH LIFE ASSURANCE COMPANY, GLASGOW.—PLAN OF UPPER FLOORS.

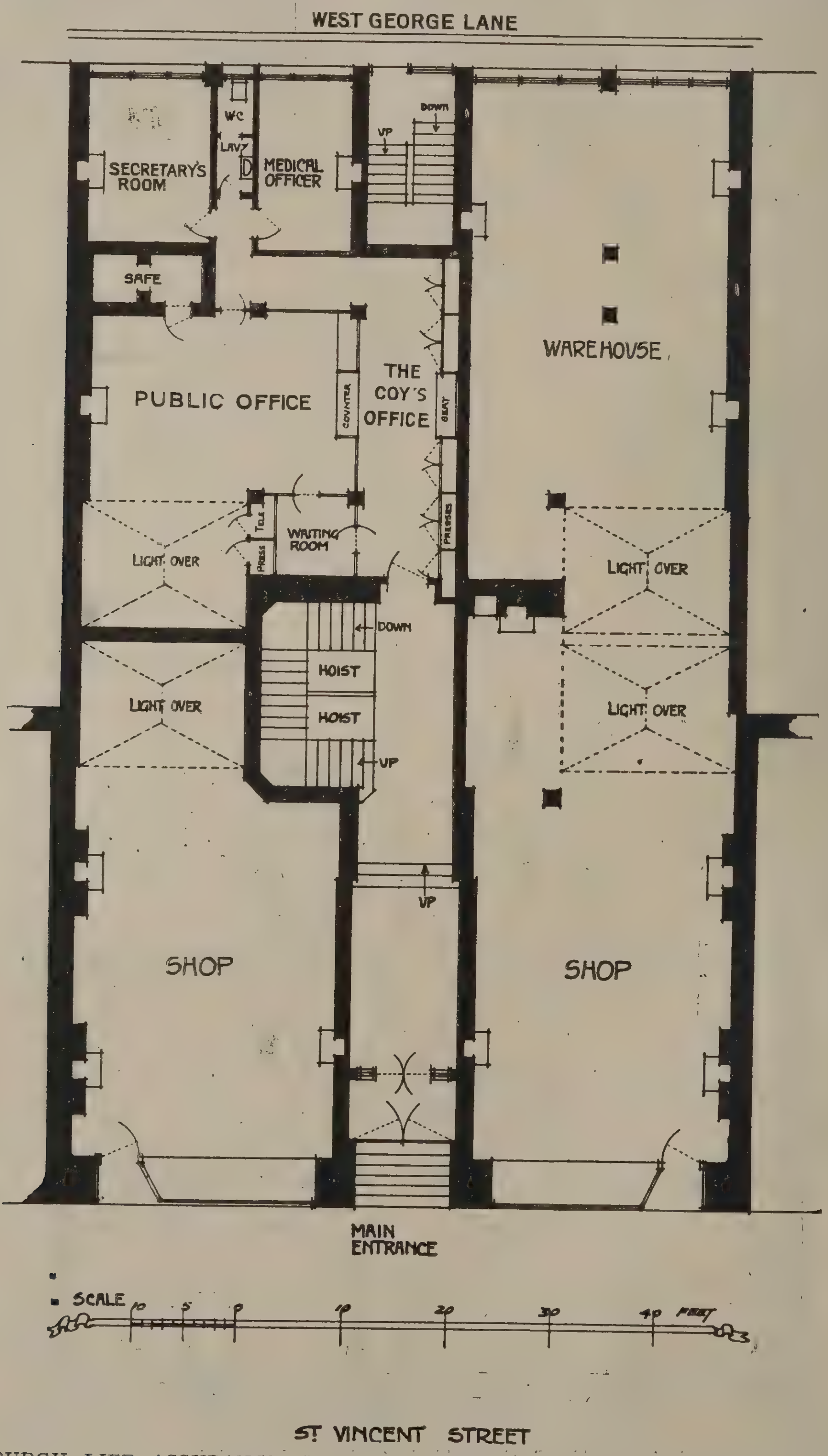
to the convenience of tenants. In the entrance hall the walls and floor are lined with marble, the wood finishings being of the best hardwood. Access is gained to the upper floors by two large staircases (one of them entered from the back lane) and by two electric hoists embodying the latest developments, the cages for which have been specially designed. The sanitary work has received every attention ; the electric fittings have been made specially for the building. The company is progressive, and the estimation in which it is held is shown by the increased business in 1905 as compared with that of 1904. The total funds at December 31, 1905, amounted to 4,085,850*l.*

VILLA ITSCHERT VOLLENDAR, COBLENZ.

VILLA IN COBLENZ.

143 AND 144 FLEET STREET, E.C.

THE architect of this building, which is adapted for commercial purposes, is Mr. R. M. Roe, F.R.I.B.A., who, however, has not had a free hand, as Sir J. G. Tollemache Sinclair, Bart., who has of recent years made a hobby of erecting buildings in the City of London, insisted upon some features which, to say the least of it, are of a somewhat incongruous nature. The style is certainly of a somewhat novel character, although the main features are late Gothic, and the statue of Queen Mary of Scots which adorns the front is only one of the ideas which Sir J. Tollemache Sinclair has caused to be realised in stone. He, however, has not interfered with the interior of the building, which is admirably adapted for business purposes.



EDINBURGH LIFE ASSURANCE COMPANY, GLASGOW.—PLAN OF GROUND FLOOR.

The façade is of Portland stone. The contractor is Mr. F. J. Coxhead, of Leytonstone. The cost of the building was about 5,000*l*.

COURT OF THE DUCAL PALACE, VENICE, NORTH SIDE.

SHAKESPEARE AND OLD LONDON.

A PAPER was read before the Society of Architects on Thursday, April 26, by Mr. T. R. Croger, F.R.G.S., F.Z.S., F.P.S., on "Shakespeare's London." In commencing his paper, Mr. Croger briefly sketched the early career of the poet, who, he said, when 18½ years of age married Ann Hathaway, who was 27. Three years later he left home; it was not known if he came direct to London, but we might infer that he came very shortly after, that he took employment under Edward Alleyn (the actor-manager), the founder of Dulwich College, and afterwards rapidly rose in his profession, so rapidly that in the year 1594 he had achieved great distinction, and was in that year playing before Queen Elizabeth at Greenwich, in company with the greatest tragedian and comedian of the time—Burbage and Kemp.

When Shakespeare arrived in London he found it in a state of great excitement, preparing for war with the Spaniards, and many of Shakespeare's patriotic utterances are due to that time. With regard to the existing remains known to Shakespeare, London Stone is one he mentioned in the play of "Henry VI.," and makes Jack Cade to sit upon the top of it, strike it with his sword and order "that conduit run nothing but claret wine this first year of our reign." At that time London Stone was on an obelisk propped up by iron bars, as described by Stowe, and was originally put up by the Romans in the centre of their camp, the site of which is now occupied by Bush Lane House and part of Cannon Street Hotel.

In 1594 (a very important year in the career of Shakespeare) he lived in the parish of St. Helens in Bishopsgate, where he was rated at 5*l*., on which he paid 13*s*. 4*d*. Sir John Spencer, the Lord Mayor at the time, lived in Crosby Hall and was rated at 300*l*. a year, on which he paid 40*l*.; but money then had about eight times its present value. In the play of "Richard III." the hunchback Duke of Gloucester was living in Crosby Hall (then called Crosby Place); in the first scene of that play he stopped a funeral procession, made love to Lady Anne, the chief mourner, slipped a ring upon her finger and bade her "presently repair to Crosby Place." It was in that fine old mansion that Shakespeare makes Gloucester to have the interview with the murderers employed to do away with his brother Clarence, the interview concluding with the words, "Tut, tut, my lord, we will not stand to prate; talkers are no good doers; be assured we go to use our hands and not our tongues." The church of St. Etheldreda, Ely Place, is all that remains to us of the palace with 40 acres of gardens occupied by the Bishop of Ely. In the same play of "Richard III." Shakespeare makes Gloucester interrupt the proceedings of the Council by saying, "My Lord of Ely, when I was last in Holborn I saw good strawberries in your garden there." It was also here that the scene of the death of John of Gaunt took place (see "Richard II.").

Bankside was the scene of most of Shakespeare's dramatic achievements. It was the pleasure garden of London, where there were fish-ponds and bull-baiting and bear-baiting rings, and two theatres, and it became the fashionable and artistic resort. In the church of St. Saviour's, adjoining, the poet's youngest brother, Edmund, "a player," was buried in the year 1607 with the "forenoon knell of the great bell," a great honour doubtless paid him by his elder brother. Two of Shakespeare's colleagues lie in the church—Philip Massinger, who succeeded Shakespeare as a playwright, and Fletcher, an actor.

When a young man there is no doubt Shakespeare was prosecuted for poaching by Sir Thomas Lucy, whom he described as "A Parliament man, a Justice of Peace; at home a poor scarecrow, in London an ass," and in "The Merry Wives of Windsor" as Justice Shallow. That London residence was probably in the parish of Cripplegate, as we find in that church two monuments erected in memory of members of his family.

Westminster Hall was mentioned, where Shakespeare lays the pathetic scene in which Richard II. hands the crown to Henry Bolingbroke, a scene which Queen Elizabeth forbade a repetition of. The "Comedy of Errors" was played in the Hall of Gray's Inn (built in 1555) on December 28, 1594. It was on the occasion of a feast given to the gentlemen of Lincoln's Inn; great trouble arose through want of room, and probably through want of provisions, the consequence being a free fight in the open square between the visitors and their hosts. One of the former afterwards wrote, "a sorcerer had foisted a company of base and common fellows to make up our disorder with a play of errors and confusion." "Twelfth Night" was first performed on February 2, 1602, in the Hall of the Middle Temple (built in 1572); we gather this from the entry in the diary of a student, who added, "the players got 10*l*. for their pains." Queen Elizabeth died at Richmond Palace (built in 1501, part now standing) in 1603, and Shakespeare and his company were playing before her only a few days prior to her death.

When James I. came to the throne he was a great patron of the drama, and had no fewer than four companies in the employment of himself and family. On his approaching London he was met at Stamford Hill by the mayor, aldermen and commons of the City of London in state, and in the procession were nine actors robed in scarlet, Shakespeare being one of them. They marched to the Charterhouse (built 1371), where King James stayed before entering London.

Numerous other interesting facts were mentioned in explanation of the photographs thrown upon the screen, and the lecturer closed by saying that if his audience were of opinion that the plays of Shakespeare were written by Bacon, then all the facts that he had been relating were as applicable to one as to the other, for Bacon was born three years before Shakespeare and died seven years later.

ARCHITECTURAL TRAINING IN EDINBURGH.

THE annual meeting of the Edinburgh Architectural Association was held last week. Mr. H. O. Tarbolton, the president, was in the chair.

The chairman of the committee of management reported that 1907 would be the jubilee year of the Association, and it had been suggested that the event should be celebrated by holding an exhibition and inviting the Royal Institute of British Architects to hold their annual dinner and other meetings in Edinburgh that year.

Mr. Hippolyte J. Blanc, R.S.A., was elected president for next session.

Mr. Tarbolton, in his valedictory address, said the movement of the Association had been in a forward direction, and their position as an active agency for good in the city was yearly increasing. They all looked forward to the time when the municipality would look to the Association for guidance in questions that affected the architectural development of the city, and he was of opinion that, when so called on, their efforts would be given ungrudgingly and in a disinterested way. After a review of the work of the session Mr. Tarbolton said that matters dealing with the training of the architectural student had been very much influenced by recent events and possible forthcoming changes in art education in Edinburgh. The proposed new municipal art school must of necessity be concerned with the general principles of art education, but could not be expected to carry its students into the higher regions of the particular science of architecture. That such a school was likely to be instituted in Edinburgh was a matter for congratulation, and with it would be introduced, he hoped, a new era of art activity. He was of opinion that the curriculum of this proposed school should exhaust the various branches of art teaching in their more general aspects. He was, of course, more especially concerned with the facilities that would be given to architectural students. The foundation of this art school would be a task that would demand the most disinterested and anxious attention on the part of the municipality, and he hoped no steps would be taken without consultation with acknowledged experts in architectural training.

With regard to the selection of the board of management of the new art school, the more representative it could be made the wider its sphere of usefulness would be. The success of the school would depend greatly on the executive committee, which should consist mainly of the teaching heads of the various departments. He maintained that the teaching throughout the school should be of a synthetic nature, *i.e.* that there should be common groundwork for all the teaching, so that free intercommunication could take place between the various branches of study. There should be accommodation for students in every department in art, and all students should be trained up to a certain point before particularising in any one branch. Painters, sculptors, decorators, designers and architects should have a definite and common basis of art training, for he was convinced by so doing the student would be enabled to discover his real vocation. Painters would benefit by an architectural training, and architects would gain immeasurably by a knowledge of the theory, and possibly practice, of painting. At present men following the various art callings worked on almost parallel lines which seldom touched, and more overlapping would produce mutual benefits. He thought, of course, that practising architects should be, as far as possible, on the teaching staff, so that certificates of proficiency which would be the reward of a student's success in the school might have a proper value among outside architects. He would also strongly advise that opportunities should be given to advanced and successful students to continue in the school as pupil-teachers. Such a grade of teachers would often be the means of giving a helping hand to less advanced students and so keep the extremes of the community well in touch. It would also be the means of keeping on students in the school, who, from pecuniary necessities, might otherwise have to seek employment elsewhere. By having practising architects closely connected and identified with the school in place of a regular system of permanent teachers, pedantry and doctrinaire views would be avoided. He thought that a certificate or diploma obtained from such a school and endorsed by the master under whom he had served his apprenticeship would give a student a distinct status at the outset of his career.

With regard to the subjects which would be necessary for the course of art and science training of the architectural student, he could only quote from the recommendation of the Board of Education of the Royal Institute of British Architects as follows:—1. The nature and properties of building materials. 2. Construction, including (*a*) applied mechanics and mathematics in so far as they were necessary to the solution of problems of construction; (*b*) the practical methods of the building trades. 3. Architectural drawing, including (*a*) in the elementary course—geometrical, freehand, perspective and graphic methods of working out problems and such drawing as will train the student in the selection of form and in the study of mass and proportion; (*b*) in the more advanced course—drawing of a more advanced nature, and to include a course of study from the antique and life. (He should certainly like to add to this course the theory of colour, which he considered most important for all architects.) 4. The study of architectural forms that have been evolved in the architecture of the past out of constructional necessities, and exercises in the design of construction to meet definite problems. 5. The study of the history of architecture in so far as it illustrates and explains the evolution of architecture through constructional material and social conditions. The new school for architectural training would not be complete without a workshop where demonstrations could be given in actual materials. Modelling, too, should be taken as an item in the general art studies. He need hardly add that a well-selected architectural library would be a very necessary complement to the school. A school established on the above lines would give a very thorough and general training, and would lay a sound foundation on which the student might continue his studies in later years. In order, moreover, that the benefits of such a school might be more deservedly available, bursaries, rewards or grants might be made, so that either the poor student of promise might be enabled, or the promising student of means might be encouraged, to take fuller advantage of the means afforded by the Institution. It was, indeed, earnestly to be hoped that the proposed new municipal school of art would be able to attract as a Mecca from all quarters and in ever-increasing numbers the true students of art, and that it would afford them every facility for the prosecution and perfection of their peculiar vocation. There was here a wide and proper field for the philanthropic testator, not for charitable purposes only, but to insure real national advantages. In closing, Mr. Tarbolton inquired what the Universities were doing for architecture, and remarked that the time had come when the Universities of the country must recognise the true dignity of the art and science of architecture and its position as an element in a true liberal education.

Professor Baldwin Brown said, with regard to the question of architectural education and the new art school that they hoped would be established before long, they would like to see architecture taught in the school according to a proper system, and that the whole decorative arts would be grouped together under architecture and looking to architecture as their head. He should like painting to remain in their new system entirely under the control of the Royal Scottish Academy, so as not to break the long and honourable tradition of the life school of the Academy. If that tradition were broken, they would do more harm than good to that branch of education. They would do best by building on the foundations they had. He should very much rather there was not a committee of management at all, but that there was placed a thoroughly competent architect, familiar with all decorative arts, as the head of the school, with a free hand to organise it and to gather round him those helpers who he felt would be of advantage for his work.

ENGLISH ROYAL HERALDRY.*

HERALDRY is largely the outcome of the almost universal symbolism which is found among the remaining traces of primitive peoples. Signs like the swastika and triskele, which were in all likelihood astronomical, represent a large group of these marks, and another large group can be found which owe their origin to natural forms, as, for instance, the Egyptian "Ouza," or sacred eye.

These signs were worn as personal ornaments as well as doing duty on rocks, buildings and works of art. But at a period when savage men gathered themselves together into families or tribes, we find tribal marks or totems, and these I imagine are the prototypes of our modern heraldry, where all members of the same armigerous family use the same coat-of-arms, supporters, crest and motto.

Heraldry, as we know it, is a Mediæval art, fostered particularly during the Crusades, when armour reached a state of development in which it entirely covered up the wearer. It was obviously necessary to have some outward and visible sign of the identity of such a warrior, and an easy way to obtain this was the addition of some personal badge on the top of his helmet; hence the crest, which is a personal mark, and should never be worn except by the person entitled to use it. A crest on a livery button is wrong; the proper mark on a serving-man's dress is a badge.

Besides the crest the shield offered an obvious field for distinctive marks, but it had the disadvantage of being easily lost, so the crest on the helmet was originally the more important. Kings wore circlets of gold over their helmets, and many interesting adventures resulted.

At tournaments and on State occasions knights had the caparisons of their horses emblazoned with their arms and also their own surcoats. At tournaments knights not actually fighting had their shields carried by pages, who were often dressed in fancy costumes, often in the form of animals—hence the heraldic supporters.

The traditional coat-of-arms of Normandy is "gules, two lions guardant or," and it is supposed that this coat was used by our Norman kings with the exception of Stephen—who is credited with three centaurs with bows and arrows—Sagittarius. At the same time it must be said that there is no official authority for the existence of the two lions until about 1180, when they show on the seal of Prince John, Lord of Ireland, in which case the prince, on horseback and in armour, carries a shield on which are two lions passant guardant. Henry II. married Eleanor of Aquitaine, and the traditional coat-of-arms of that country was "gules, a lion guardant." St. George was, moreover, the patron saint of Aquitaine. On the second great seal of Richard I. the shield carried by the king shows three lions, and this coat has remained the coat-of-arms of England until the present day, that is to say, for a longer period than the royal coat-of-arms of any other nation. The only interregnum was during the Commonwealth. We have seen that Normandy was credited with two golden lions on a red ground, and that Aquitaine was credited with one golden lion on a red ground, and so we may presume that Richard combined the coats of his father and his mother, and so arrived at his three golden lions on a red ground, the oldest royal coat in Europe.

This same coat was used by Richard's successors until the time of Edward III., but on his third great seal, made in 1340, he uses the coat-of-arms of France, "azure semée de

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[*] A paper by Cyril Davenport, F.S.A., read before the Applied Art Section of the Society of Arts.

fleurs-de-lys or," quartered with England. His reason for doing this, as well as for his assumption of the title "Rex Franciæ," was that he claimed the throne of France by right of his mother Isabella, daughter of Philippe IV., as her three brothers (Louis X., Philip V. and Charles IV.) died without any heirs. The French coat as well as the title was retained by our English sovereigns until the legislative union of Great Britain and Ireland in 1801. The crest of a lion statant shows clearly on the great seals of Edward III. on a cap of maintenance, but afterwards it is shown on a royal crown.

In early descriptions of coats-of-arms the animals shown on the English coat are described as leopards. The reason for this is that heraldically a lion is a rampant beast, showing only one eye, one ear, and standing upon one foot. In any other position he was described as a leopard, and considered to be acting the part of one. In such cases, however, the animal only bears that name as an heraldic title. A true heraldic leopard has spots, no mane and an untufted tail. Our English lions have manes, no spots, and tufts at the end of their tails. Any lion not rampant may heraldically be called a "lion leopardé." Golden lions on a red ground are "langued and armed azure;" that is to say, they have blue tongues and blue claws.

Edward seems at first to have used the English coat before that of France, as Howes in his "Chronicle" says that, "Touching the title and armes aforesaid, the French king (Philip VI.) said to certain English men sent to him, 'Our cousin,' quoth he, 'doth wrongfully beare quartered the armes of England and France, which matter notwithstanding doth not much displease us, for that he is descended from the weaker side of our kin, and therefore as being a bachelour we would be content to grant him license to bear part of our armes of France. But whereas in his Seals and Letters Patents he nameth himself as well King of England as of France, and doth set the first quarter of his arms with Leopards, before the quarter of Lilies, it doth grieve us very much, making apparent to the beholder that the little island of England is to be preferred before the great kingdom of France.' To whom Sir John Shoreditch, Kt., made answer, 'That it was the custom of men in those days to set the title and arms of their progenitors before the arms and title of the right descending of their mother, and thus of dutie and reason doth my Lord the King prefer his arms.'"

Nevertheless, the protest of the King of France found favour in Edward's eyes, and he and his successors, until the time of William III., allowed the arms of France to remain in the first quarter.

We are told in manuscripts (Harl. 1073 and Harl. 304) that Edward III. used as supporters a crowned lion guardant, or, and a falcon, or, but I expect these were only badges. Badges did, however, in many instances suggest supporters.

Richard II. used the same coat, and there is a sculptured coat-of-arms of his at Westminster Hall, beneath which is the badge of a white hart, the cognisance of his mother, Joanna of Kent. Richard married Isabella of France, whose father, Charles VI., reduced the lilies semées of France to three only. Henry IV. at first used the lilies semées, but in 1408, in his great seal, he reduced them to three (the lilies semées are known as "France ancient," and, when there are only three, as "France modern"), and this coat, "quarterly 1st and 4th, France modern, 2nd and 3rd, England," remained unchanged until the time of James I.

Henry V. is credited with having a lion and an antelope as supporters, but over his tomb at Westminster he has an antelope and a swan. But still I think these are only badges.

Henry VI. shows the coat upheld, in a coloured-glass window at Ockwells House, Maidenhead (the exact date of which I do not know), by two white harts, derived no doubt from the badge of Richard II.

Now I find a new authority for royal coats-of-arms. Hitherto I have derived them chiefly from seals, but from Edward IV. until Victoria (with the exception of Edward V.) there is a splendid series of royal coats-of-arms on, or in, books which belonged to the sovereigns themselves.

At Westminster there is a loose cover of a book which bears the impression of a panel stamp showing the arms of Edward IV., supported by two lions, ensigned with a crown held up by two angels. Also in a manuscript (Bib. Reg. 15 E. 4) which belonged to the king is the same coat and the same supporters. The white lions are doubtless derived from the white lion badge of the Mortimers, Earls of March, ancestors of the king. Willement says Edward V. had a lion and an antelope as supporters, but I cannot find any authority for this. He had no great seal.

The Yorkist badge of a silver boar is carved on the steeple of the church at Wolverhampton, and silver boars, armed or, were undoubtedly used for supporters by Richard III., and are shown in a manuscript which belonged to him. (Bib. Reg. 18 A. 12.)

On another manuscript (Bib. Reg. 16 F. 2), formerly the property of Henry VII., is his coat-of-arms with the same two white lions as supporters, but a little later he changed them and adopted a red dragon, supposed to have been the badge of his ancestor, the Welsh prince Cadwallader, as his dexter supporter, and a white greyhound as the sinister supporter. The white greyhound was a badge both of Henry's ancestors the De Beauforts, and of his wife's ancestors the Nevills. Henry VIII. used the same supporters until about 1528, when he gave up the greyhound and moved the dragon to the sinister side, adopting a lion as his dexter supporter.

Edward VI., Mary and Elizabeth all used the same coat and the same supporters, but Elizabeth on one of her great seals used for the first time the harp of Ireland. It also shows in a painting of her coat-of-arms (Harl. 6096), as does also the coat-of-arms of Wales.

Ireland has at various times enjoyed a separate coinage from that of England, and an issue of silver groats of Henry VI. have on the obverse a single crown, no doubt intended for a badge or possibly coat-of-arms. A little later in the reign of the same king appear, also on a silver groat, "three crowns in pale," this time no doubt used as a heraldic bearing. This coat was afterwards declared to be the coat-of-arms of Ireland on the authority of a commission appointed by Edward IV.

Henry VIII., however, seems not to have approved of the three crowns in pale, and on an Irish sixpenny piece of 1530 shows a single crowned harp as well as the title "Hibernie Rex." Walker, in his "History of Irish Bards," says that Henry bestowed the harp upon Ireland as a coat-of-arms in token of his appreciation of her feats in music. From this time the single harp shows constantly, but on a shilling of Elizabeth, dated 1560, there are three harps, two and one. Vallency says that the Irish harp was sacred to Apollo, Grian or Beal, and in the MS. Harl. 304, we are told that "the armes of Yrland is Gules III. old harpes or, stringed argent." The shield of Ireland is, however, now shown azure—as it is in Harl. 6096, mentioned above. The coat-of-arms of Dublin is three castles, and the triple arrangement here, as well as in the case of the crowns and the harps, may have some connection with the ancient triskele, found in perfection in the shamrock, and like the four-armed swastika, one of the most widely spread of early decorated designs.

The coat-of-arms of Wales, "quarterly, or, a lion statant gules counterchanged," which shows also in the same MS. Harl. 6096, is really that of South Wales; the coat of North Wales, which shows on the hilt of the State sword of Prince Edward, afterwards Edward V., is "or, three lions passant reguardant in pale, gules, their tails passing between their legs and reflected over their backs." But the coat of South Wales is generally considered to represent the whole country.

The coat-of-arms of Scotland appears first in the seal of Alexander II. in 1235. It shows continually on coins, and the lion, now truly rampant, is said to have been derived from the arms of the Earls of Northumberland and Huntingdon, ancestors of Scottish kings. The tressure with the fleurs-de-lys is said to have been adopted in compliment to Charlemagne, between whom and King Achaius of Scotland there was a treaty—and a later treaty added the second tressure, but this is all conjectural.

The Scottish supporters as used by James I., in 1429, were two lions rampant guardant, but James IV. is said to have adopted two silver unicorns, royally gorged and chained, or. One of the Scottish kings, as prince, had some hand in the death of his father, and he wore the chains which are immortalised on the unicorn of Scotland ever afterwards.

When James VI. of Scotland inherited the kingdom of England, and came here as our James I., he made an important change in the royal coat-of-arms. In the first place he used the coat of "France and England quarterly," which had been used by his predecessors, repeated in his first and fourth quarters, then in the second quarter he put his own ancient Scottish coat, and in the third quarter the harp of Ireland. Not only this, but James abolished the red dragon of Wales, used as a sinister supporter by the later Tudors, and substituted for it one of the Scottish unicorns. This same coat and supporters was used by Charles I., Charles II. and James II., and the supporters have remained the same until the present day.

Cromwell used the cross of St. George in his first and fourth quarters, the cross of St. Andrew in the second quarter, and the harp of Ireland in the third quarter, and over all in an inescutcheon the lion rampant of the family of Cromwell, and the later Tudor supporters, lion and dragon.

William III. was born Prince of Orange, and had for his coat-of-arms quarterly, Nassau, Dietz, Vianden and Catsenelboge, over all Chalon, Orange, Geneva and Buren. When he came to England he used the same coat as James II., but with the arms of Nassau, his original first quarter, "az., semée of billets, a lion rampant, or," in an inescutcheon. William also in many instances altered the order of the quarterings of the royal coat-of-arms.

Queen Anne in the early part of her reign used the same coat as her father, but on the legislative union of England and Scotland in 1706 (March 6) she made an important change. The coats of England and Scotland are now impaled and used on the first and fourth quarters, France is relegated to the second quarter, and Ireland remains in the third quarter. This coat remained in force until the accession of George I.

Before George I. came here he was Duke of Brunswick and Elector of Hanover, and had an elaborate coat-of-arms, ensigned with the electoral bonnet. This coat contained the arms of Brunswick, Saxony, Luneburg, Eberstein, Osnaburg, Homburg and several others, with the crown of Charlemagne on an inescutcheon. When he came to England he omitted the existing fourth quarter of the English coat-of-arms, and substituted for it a representative coat for his dominions in Germany, namely, "Brunswick impaling Luneburg, Saxony in the base point and the crown of Charlemagne, in an inescutcheon of pretence, as a badge of the office of Arch-Treasurer of the Holy Roman Empire. This actual crown is now kept in the royal treasury at Vienna. It is the finest Byzantine crown in the world. This coat-of-arms was used by George II. and by George III. until 1801, when, on the legislative union of Great Britain and Ireland, the lilies of France and the title "Rex Franciæ" were discontinued, and the Hanoverian coat was put in the centre of the coat-of-arms on an escutcheon of pretence, ensigned with an electoral cap, the coat of England being alone in the first and fourth quarters, Scotland in the second and Ireland in the third.

On the elevation of Hanover to the dignity of a kingdom in 1814, a new seal was designed, and on the fifth great seal of George III., issued on August 1, 1815, the electoral cap above the escutcheon of Hanover was changed into a royal crown.

George IV. and William IV. both used the same coat-of-arms, but on the accession of Queen Victoria the escutcheon of Hanover was discontinued, that kingdom, by virtue of the Salic Law, passing to the Queen's uncle, Ernest, Duke of Cumberland. Hanover was annexed to Prussia in 1866. Edward VII. uses the same coat as Queen Victoria. The present official coat-of-arms of Scotland is quarterly first and fourth Scotland, second England and third Ireland, within the collar of the Order of the Thistle. Dexter supporter a unicorn and sinister supporter a lion, each holding a spear with the national flags bearing the crosses of St. Andrew and St. George respectively. The crest is a lion sejant affronté on a royal crown, holding in his dexter paw a sword and in his sinister paw a sceptre, and above is a scroll bearing the words "In Defens."

To-night I have only considered the coats-of-arms of our actual sovereigns; I hope, on a future occasion, to have the privilege of telling you something about the coats-of-arms of royal consorts, Princes of Wales and also about the many royal badges.

The chairman (Mr. W. A. Lindsay, K.C., Windsor Herald) was sure the members were deeply indebted to Mr. Davenport for his paper and for the beautiful illustrations he had given of the various coats of arms borne by the sovereigns of this country. With reference to the early connection of England with Aquitaine, it was not uninteresting to observe and it might possibly have some bearing on the arms used by early England, that both Aquitaine and Normandy were formerly represented at the coronations of British sovereigns by two special officials. Down to quite recent times two persons representing the two Duchies of Normandy and Aquitaine had always taken part in the coronations of British kings. With regard to Edward IV. being the first person to use supporters, he quite accepted the statement that no illustration of such supporters could be found or was easily to be produced, but that kings of England did have supporters long anterior to Edward IV. was, he thought, proved by the fact that all the great earls had supporters. There existed seals of a number of earls, both of England and Scotland, for a period of a hundred years before Edward IV., and they all had supporters beautifully engraved. Most of those seals were supposed to have been made in Italy. With regard to Oliver Cromwell and his very ingenious device, which was no doubt intended to obliterate heraldry as much as possible, the author made one remark from which he (the Chairman) wished to differ, namely, that Oliver Cromwell descended from the Stuarts. The fact was that Oliver Cromwell did descend from a family of Stuarts who lived in the East of England, who attempted to prove and induce certain heralds to record that they descended from the kings of Scotland; but the whole pedigree was absolutely spurious, and it had been disproved long ago. As regards the heraldry of Queen Anne, he would like to suggest to Mr. Davenport that the arrangement of putting England and Scotland in pale in the first quarter was a beautiful illustration of the accuracy of heraldry, because what really happened in the year 1706 was that both England and Scotland came to an end; they ceased to be separate kingdoms, and from that moment there never was an England and there never had been a Scotland—they became the kingdom of Great Britain. Therefore, the putting of England and Scotland in pale in the first quarter represented that those two countries were married. Of course, that arrangement could not be continued when a further marriage took place, and therefore, when the union between Great Britain and Ireland occurred it became necessary to go back to the former system of quartering; but the original idea of putting England and Scotland side by side, impaled, was a beautiful illustration of the idea that the two countries were married and had contracted an indissoluble union.

TESSERÆ.

Ancient Athens.

As to the real extent of Athens, it is certain that the ramparts, sixty stadia, or nearly seven miles in circumference, exceeded much what would have been necessary had the nation in time of war possessed any other place of refuge. On such distressing occasions inhabitants from the country, who had no dwellings, constructed in the openest places a number of huts, resembling in figure the hives of bees. Aristophanes, who had seen these miserable sheds during the Peloponnesian war, compares them to those earthen urns, called casks, which were in use among the Greeks. All these circumstances took place previous to the days of Diogenes the cynic, whose history, written without judgment, has been read without reflection. Exclusive of those dwellings, erected for the moment, all the houses in Athens did not exceed 10,000, according to Xenophon; and thus the total number of inhabitants may be determined at 50,000, including both slaves and strangers. It would be absurd to imagine a more numerous population where the dimensions of the buildings were so inconsiderable and their value in general so trifling that the smallest lodging in any of the great towns of Europe could not be purchased on the same terms. In perusing the Greek orators, who had such frequent opportunities of appraising estates and inheritances, it appears that the value of a house in Athens was generally about half an attic talent, or ninety pounds sterling. Numbers of them, however, could not be sold even for that sum, as may be judged from what Dicearchus has recorded of their mean appearance. It has been necessary to begin these discussions in order to fix the ideas of the reader on the most interesting points of the history of Athens, and every person must now perceive that neither Pericles nor any other demagogue as powerful as he could ever succeed in transforming this capital into a beautiful town. The excess of magnificence displayed in the temples and public edifices of Athens rendered the wretchedness of the private buildings more conspicuous. The eye was carried rapidly from one extreme to the other without finding anything intermediate whereon to repose, and this evil, instead of diminishing, became constantly more prevalent. As no connection or proportion subsisted among the parts it was impossible that the whole could produce any beautiful effect. The 3,000 statues erected in the public places and under the porticoes of Athens did not conceal the deformity of the streets, because a profusion of ornaments can never compensate for misery.

Henry Cole and Architecture.

Cole had for the work of his life the advancement of what we have been accustomed to call the minor arts, and there can be no doubt that he began upon the basis of a personal dislike to the professional practice of architecture, which he maintained to the end and bequeathed to his successors. Rightly or wrongly, he seems to have arrived at the conclusion that the architect was a fossil, whose function in the streets of ancient Rome, or in the cloisters of Mediæval abbeys or in the market-places of modern but not too modern Italy had no doubt been a useful function judging by the remains of his performances, but who in modern London was a doer of nothing to speak of, or of nothing but what could be done quite as well without him. As matter of business, we know this to be mere folly; there is perhaps nothing in the work of this world which the untrained intelligence can never hope to accomplish if the proper design of a high-class building be not such a thing, and the continual endeavour of uninformed persons to do their own architecture, in spite of a thousand failures, is only evidence, indeed, of the fascination of the unattainable. Cole, however, seems never to have permitted himself, as so many do, to be an amateur architect, or even to have encouraged any one else to be so; what he underrated was not art, nor even business, but men. His own soul was wrapped up in detail, and he found the architects, as he thought, to be devoid of the knowledge of such detail, and content to trade upon a little experience merely in the drudgery of supervising building contractors. When he fell in with an architect like Digby Wyatt, who knew all that he himself knew, or could wish to know, of the arts of detail, and who knew also that which he acknowledged to be beyond his own reach—the whole volume of the historical art of splendid building—he could honour him, and did honour him as far as was convenient; but if the mere art of building without the arts of detail were alone in question his opinion was that the Royal Engineers could manage that quite as well as any one need desire, and indeed all the better because of one thing, that they were soldiers under discipline, and not like a good many architects he could name who were not under discipline, and whose successors, if we must tell the truth, are not under discipline yet. The fact that the Prince Consort had built Osborne in 1848 without employing an architect (although the builder, of course, employed one) may have been encouraging to him.

Assyrian Vaulting.

The vault was supreme in certain parts of the buildings of Chaldea and Assyria. Its use was there so constant as to have almost the character of an unvarying law. Every palace was pierced in its substructure by drains that carried the rain-water and the general waste from the large population by which it was inhabited down into the neighbouring river, and nearly all those drains were vaulted. And it must not be supposed that the architect deliberately hid his vaults and arches, or that he only used them in those parts of his buildings where they were concealed and lost in their surroundings; they occur also upon the most careful and elaborate façades. The gates of cities, of palaces and temples—of most buildings, in fact, that have any monumental character—are crowned by an arch, the curve of which is accentuated by a brilliantly coloured soffit. This arch is continued as a barrel vault for the whole length of the passage leading into the interior, and these passages are sometimes very long. Vaults would also, in all probability, have been found over those narrow chambers that are so numerous in Assyrian palaces were it not for the ruin that has overtaken their superstructures. Finally, certain square rooms have been discovered which must have been covered with vaults in the shape of more or less flattened domes.

J. Russell, R.A.

When we try to estimate Russell's power and rank as an artist the comparison with Sir Joshua and Gainsborough forces itself upon us. Nevertheless, the divergence is far more real and striking than the resemblance. In looking at Reynolds we can never forget that he has lived with the greatest. His own resources may be inferior to theirs, but he has learnt his dignity and ease of manner in their company and in their school. He knows exactly how a great master would be expected to behave in a difficulty. He feels instinctively where Titian would have been bold or Correggio subtle. Gainsborough, on the other hand, has none of this elaborate finish of breeding and training. He is a self-made man. In the consciousness of his superb facility he disdains the roundabout contrivances of learned art, nourished upon maxims and memories. With him the shortest is also the easiest way, and his masterpieces, unlike those of his more deliberate and self-conscious rival, have all the appearance of being the natural result of some occasional harmony of mood and model. In Russell we have less art, but more of truth than in either of his great predecessors. We use the word truth, of course, in a restricted sense. He never reached that higher level on which, as in the case of the *Johnson* and the *Heathfield*, the real and the imperishable have, as it seems, already begun to shine out in the light of immortality; but, on the whole, his transcripts are more faithful than the average of either Reynolds or Gainsborough. He was ignorant of the conventions of the grand style which led the aspiring President to generalise his subjects, while the careless audacity of Gainsborough was equally remote from his character of earnestness and sobriety. Men are saved by their limitations more often than they are apt to think—certainly than Russell himself would ever have allowed.

The "Raising of Lazarus."

In that grand picture by Sebastian del Piombo in the National Gallery, what a group of fine faces are introduced, the expression of each of which is subdued to the nature of the event embodied. Here, however, the principal figure of Christ is the least expressive, and the group of Lazarus (said to have been designed by Michel Angelo) becomes of the first importance, and gives the tone of expression to the rest of the picture. The principal figure in the composition is not nor need always be the key to the expression of the whole picture; the necessity for that depends upon the nature of the event and the mode in which it is treated. In this picture, for instance, the wonderful greatness of power in the worker of the miracle is merged in the marvellous consummation of the miracle itself, the minds of the persons who view its accomplishment are bent on the strange and horrible sight, and curiosity blended with amazement and terror is the ruling passion in their breasts at this precise moment of time. Had our Saviour been represented in the act of pronouncing the words "Lazarus, come forth," then the eyes and feelings of the multitude would have been properly directed to Him, and His look would have been the key to the expression of the picture; but as it is, Christ at the precise point of time described in the picture is a secondary personage. After the wonder and curiosity of the people have subsided by beholding Lazarus alive, then their attention becomes directed again to Christ, with an internal feeling of settled wonder and reflection succeeding to amazement, terror and curiosity. In this way ought historical pictures of events to be viewed both by the artist who paints and the spectator who contemplates them. A painter can only represent one moment of time, and that precise moment of time should be clearly defined before he finishes the invention of his picture. He may conceive the scene at various points of time, as well as in various points of view and in various modes of representation; but having made his election, he should rigidly adhere to the exact turn in the event, or else there will be wanting that unity of purpose in the expression and action which is so essential to a perfect picture, and to its producing a true and vivid effect upon the mind. By means of accessorial figures and expressions and episodical circumstances, an epic character may be given to the pictorial representation of the event without those anomalies which we sometimes see in the works of the old painters, where an event is represented in more than one point of time in the same picture, like two scenes represented on the stage at one time.

Otho Venius.

It has been the fate of Otho Venius, the master of Rubens, like that of many others, to have his name and memory merged in the fame of his pupil. It was from this master that Rubens formed his style and his taste, more especially in subjects of allegory. Nothing can exceed the fertility of invention in the subjects which come under the pencil of Otho Venius. His designs embrace the abstruse and the metaphysical, and his personifications extended not only to what came under the view of the senses, but to those which more properly belonged to the imagination and understanding. It cannot but be imagined that forms thus derived must have been in many instances far-fetched and absurd; but there was such a redeeming quality in his groups and compositions—so rich a vein of fancy and luxuriance of genius—that his anachronisms and errors may well be overlooked in the variety they afford. The designs of Otho Venius for the "Life of St. Thomas Aquinas," and also for his "Divine and Love Emblems," with his "Illustrations of Horace," are a fund from which the artist and the amateur may derive both instruction and delight. His style, which was followed in great measure by his pupil, had more of the German than the Italian school, but was less pedantic and extravagant than the former. A portrait of Otho Venius is introduced by Rubens in his celebrated picture of *The Woman taken in Adultery*, and is conspicuous among the group from his bald head, white beard and benevolent aspect. The original study of this head was in the possession of Dr. William Hunter, and was removed, along with others in his collection in Windmill Street, to the College at Glasgow. This study is a more animated example of character and expression than that of the painting alluded to, where it is represented with a calm, compassionate countenance; while in the study it has all the dignity of the prophet combined with the fire of genius. Such was the master under whose forming hand the future pencil of Rubens attained a height and splendour which eclipsed the name and fame of his preceptor, clearing for himself a path to honour, preferment and employ such as few beside himself ever enjoyed.

GENERAL.

The Duke of Norfolk is to receive at Norfolk House to-day, the 27th inst., the monstrance, for use in the services at Arundel Roman Catholic church, of which we published an illustration on March 30.

Mr. Justice Grantham has been elected chairman of the Barcombe (Sussex) Parish Council.

Professor Flinders Petrie will begin a course of lectures on "Recent Discoveries in Egypt" on May 10 at 3 P.M. in University College, London. Mr. T. G. Pinches will deliver two public lectures on "The Assyro-Babylonian Antiquities in the British Museum" on May 24 and 31 at 4.30 P.M.

Mr. W. L. Wyllie, A.R.A., is engaged in painting a number of large panels to ornament the new volunteer drill hall at Chatham. The panels depict war scenes.

A Set of seventeenth-century Flemish "verdure" tapestries, recently acquired at great cost by Lord Ninian Crichton-Stuart, has been hung on the walls of the Chapel Royal in Falkland Palace. The complete "room" of tapestry came from an old house in Maarssen, Holland, which was built in 1400. The set of tapestries comprises six pieces, the largest of which measures fully 24 feet long by 9 feet high, and represent forest scenes.

H.R.H. Princess Christian will open the new National Nautical School at Portishead on May 5. Mr. Edward Gabriel, the architect, will present to the Princess a key which was made by the Bromsgrove Art Guild.

Messrs. W. S. Weatherley & Francis E. Jones, architects, have removed from 30 Cockspur Street to 2 Haymarket, corner of Suffolk Place.

Mr. Hodgson Fowler, of Durham, after an examination of Bakewell Church, has recommended the renewal of all the tie-beams, except one which dates from the fifteenth century, and, in fact, of most of the woodwork; also the recasting of the lead in smaller sheets, the relaying of the gutters in cement, and the rearrangement of all down shoots. The new tie-beams have been cut out of oaks brought from Holton Park, Oxfordshire, and Mr. Hodgson Fowler estimates that the new roof will last 200 years. The total cost of the work will be about 2,000*l.*

The First Volume of "Simpson's History of Architecture" was issued without an index. One has now been prepared, and can be obtained gratis from the publishers, Messrs. Longmans, Green & Co., 39 Paternoster Row, London, E.C.

The Society of the Architects of France have arranged that the subject of this year's competition, which is the fifteenth, shall be a railway station for a town having from 8,000 to 10,000 inhabitants.

The International Committee of Assessors, in the competition for the Temple of Peace to be erected at The Hague, have received 217 entries comprising more than 3,000 drawings. It is expected that the plans will be exhibited in June.

Mr. R. T. Longden, of Moorland Road, Burslem, has been successful in the competition for the Congregational chapel and Sunday school, Stoke-on-Trent.

Mr. Hippolyte J. Blanc, F.R.I.B.A., 25 Rutland Square, Edinburgh, is the architect for the hall to be erected at the Edinburgh Asylum, at a cost of 5,000*l.*

The Late Mr. James MacLellan Blair, who died at Linlithgow last week, was one of the best known representatives of the ironmasters and constructional engineers in Scotland. In 1873 he became a partner in the firm of P. & W. MacLellan, and he carried out contracts in various parts of the world. On the conversion of the firm into a limited liability company he became one of the directors, a position he held until his death. As a magistrate he rendered much service from his ability, fairness and sympathy. His loss will be greatly deplored.

The Restoration of the large west window of York Minster has been completed, under the superintendence of Mr. R. C. Green, the clerk of works. The original stained glass has not been interfered with, but the old plate glass which was put outside to protect the stained glass was taken out and the mullions and tracery of the window carefully restored. The exterior has been entirely reglazed with lead glazing, 958 superficial feet of glass being used in the work, namely, 598 feet up to the springing and 360 feet in the tracery. The old outer plate glass was put in some fifty years ago, and when it was removed it was found that there was only one panel which was intact, all the others having been cracked or fallen out altogether. The glass had been fixed into the stone mullions, which prevented it giving with any vibration of the building, which caused it to crack. This is obviated by the lead glazing.

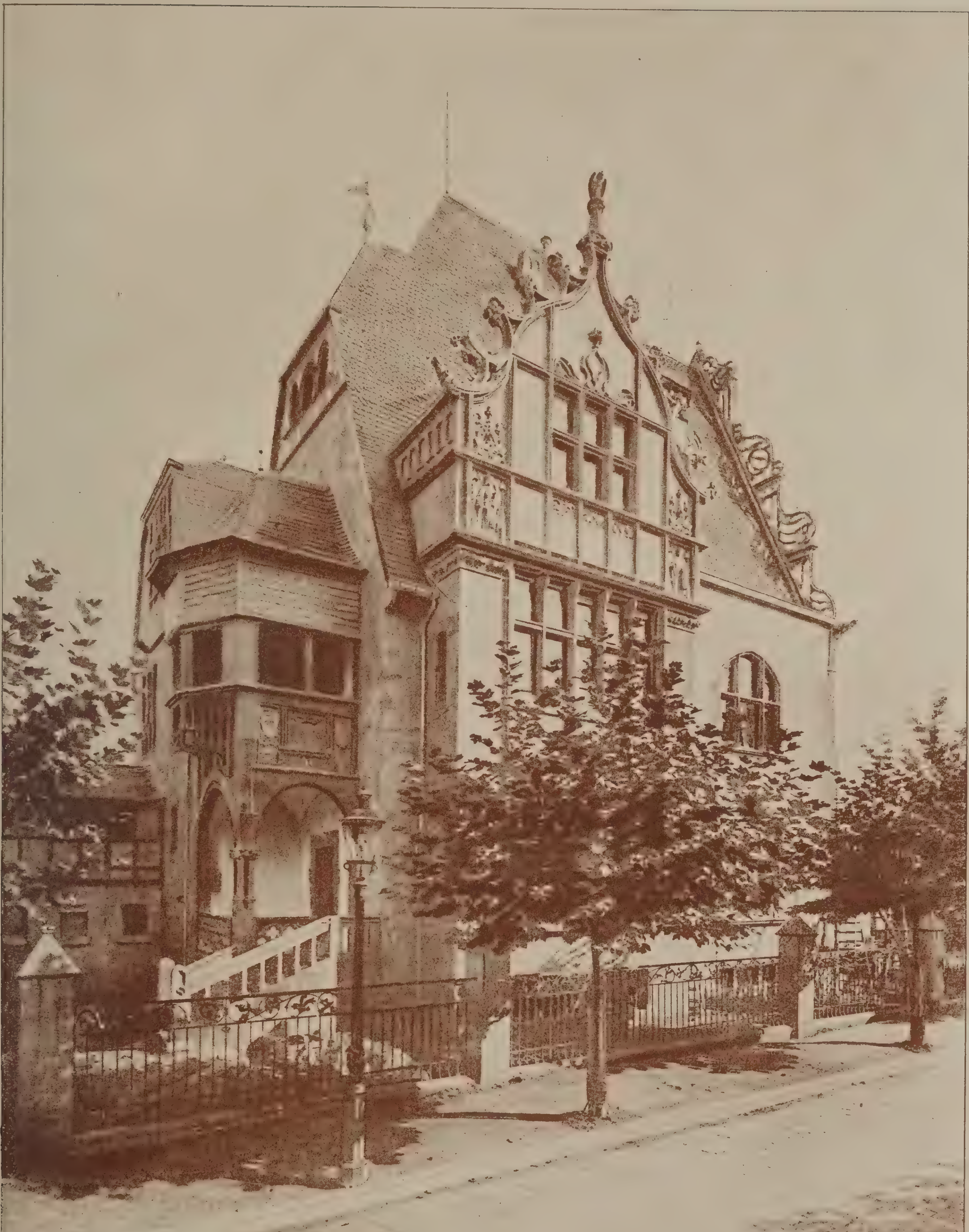
The Society of Antiquaries have elected its officers and members of the Council for the ensuing year:—Lord Avebury (president), Viscount Dillon, Sir Henry H. Howorth and Sir Edward M. Thompson (vice-presidents), Mr. Philip Norman (treasurer), Mr. F. G. Hilton Price (director), Mr. Charles H. Read (secretary), Lord Balcarres, M.P., Sir Edward Brabrook, Sir Owen Roberts, Messrs. J. Willis Clark, L. H. Cust, J. W. Willis Bund, William Dale, G. E. Fox, Everard Green (Rouge Dragon), Hubert Hall, A. G. Hill, A. B. Skinner and H. R. Tedder.

Mr. J. Morley, M.P., has made the following official statement with reference to the Indian Public Works Department:—"So long as the Royal Engineering College at Coopers Hill is open, natives of India have been able to obtain appointment to the Public Works Department of the Government of India from this country to the extent of two appointments a year. The ten additional appointments which will be made from the open market this year have been restricted to Europeans, because Coopers Hill College is still open, and that mode of access was open to Indians desiring to enter the Department during the current year and in 1907. In 1908 and after, when the whole of the recruitment will be direct from the open market, it has already been announced by my predecessor that natives of India may be recruited in this country up to 10 per cent. of the total number appointed."

The Grantham Town Council held a special private meeting for the purpose of appointing a successor to the late Mr. F. J. Morris, the borough surveyor. There were 210 applications, and a special committee reduced this number to five, namely, Mr. William Shackleton, of Hanley; Mr. Henry Raven, Ilkeston; Mr. D. J. Bowe, Eastbourne; Mr. A. Norman Hudswell, Woolwich, and Mr. Harry O. Jones, Folkestone, and these were interviewed by the Council. The final vote was taken between Mr. Shackleton and Mr. Raven, and the result was the appointment of the former. Mr. Shackleton is thirty-two years of age, married, and has had seventeen years' experience. The salary is 180*l.* per annum, rising by 10*l.* yearly to 250*l.*

In their Report for the year ended September 30 last, the Commissioners of the Board of Trustees for Manufactures, &c., in Scotland say:—"It is with great gratification the Commissioners have to report the unprecedented success of their advanced students in the competition for the awards of royal exhibitions and national scholarships, open to all art students in the United Kingdom. Out of ten royal exhibitions awarded three were gained by students of this school, viz. the fourth, fifth and tenth places. Only six national scholarships are awarded each year, divided between the four groups of art study, viz. design and ornament, architecture, modelling, and drawing and painting, and three students of this school were placed first, second and third in the modelling group. In addition to these, the highest awards, two local scholarships and one free studentship at the Royal College of Art, also fell to the share of this school."

The Architect, April 27th 1906.



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WILLY BOCK, Architect.

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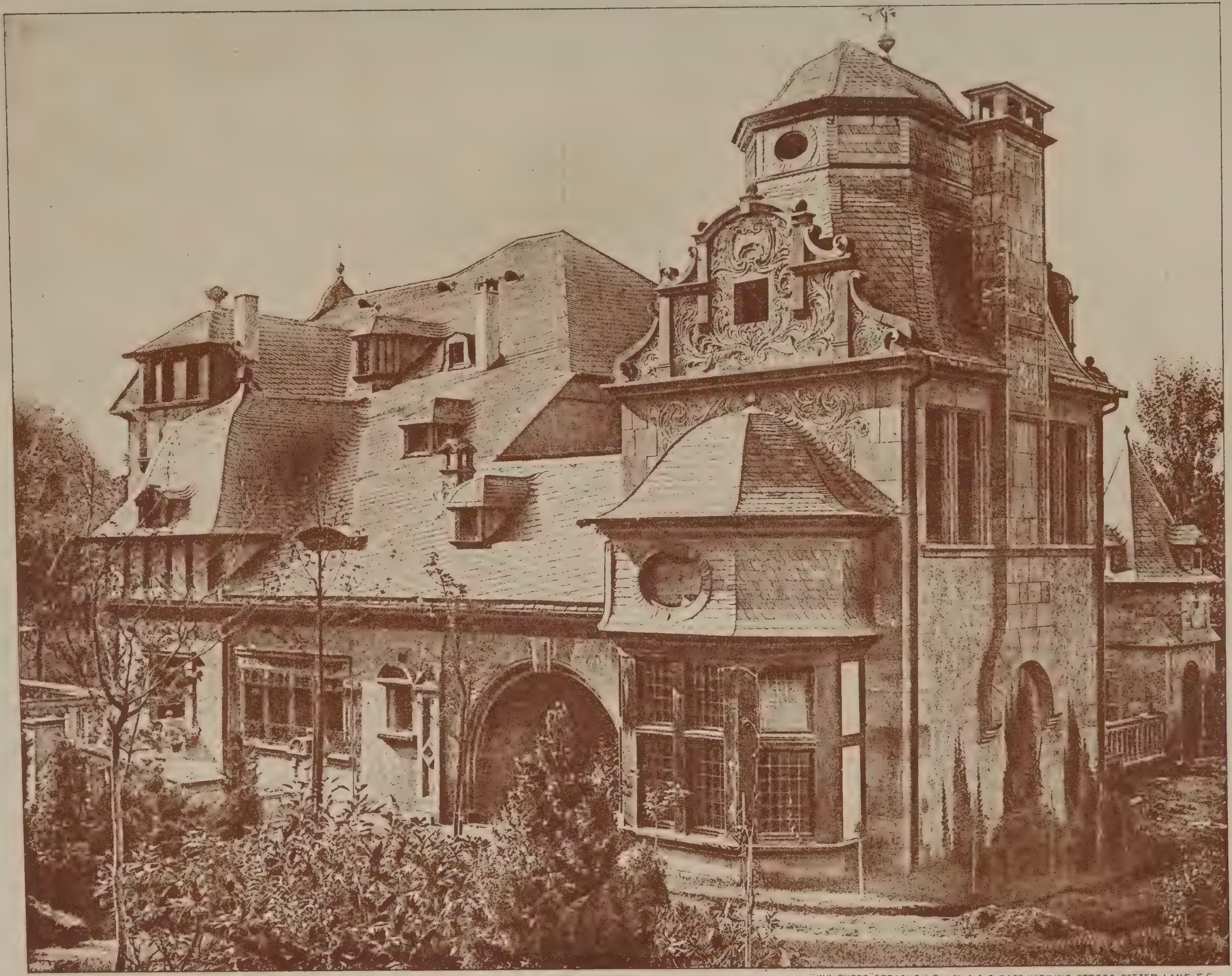

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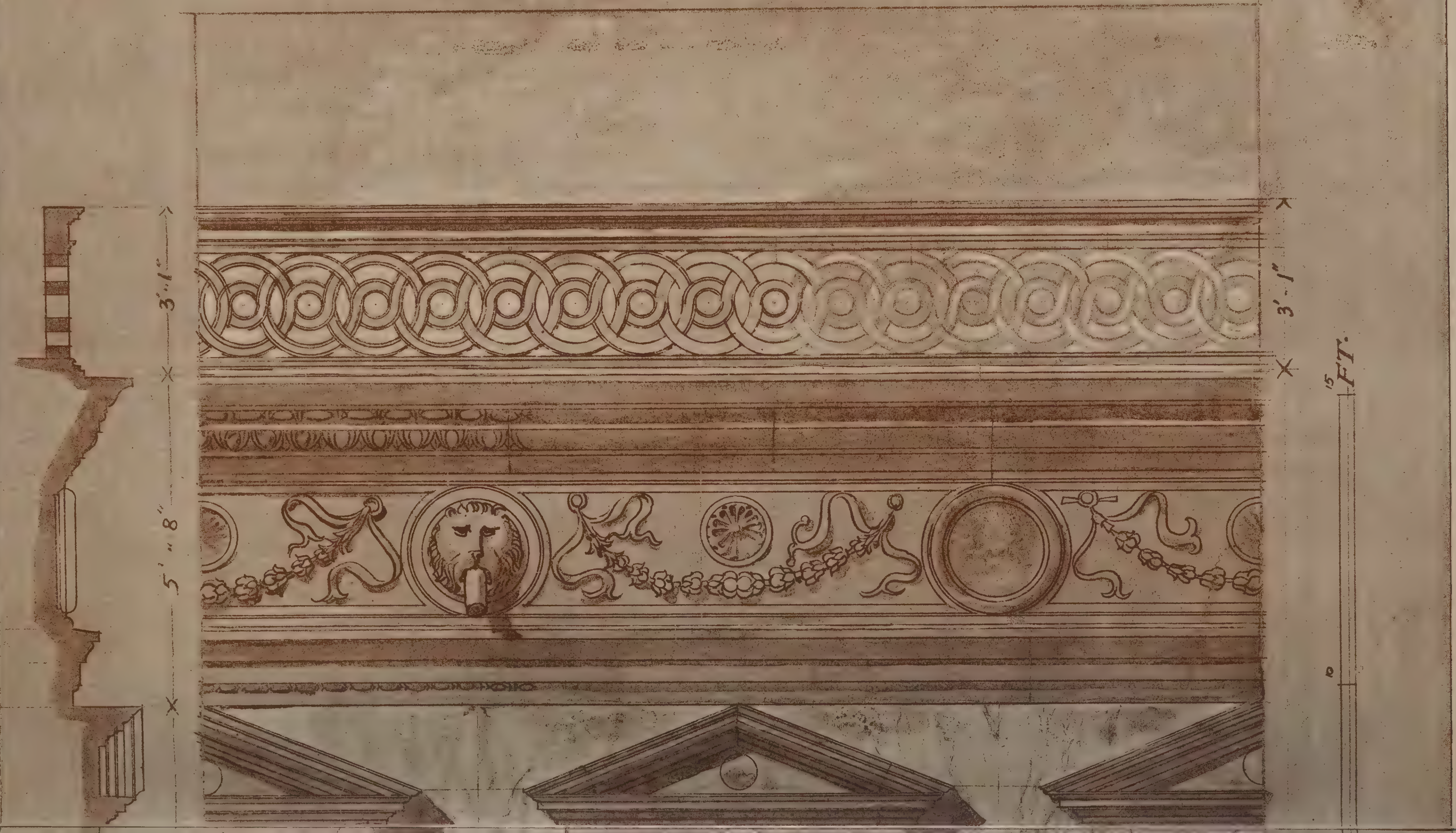

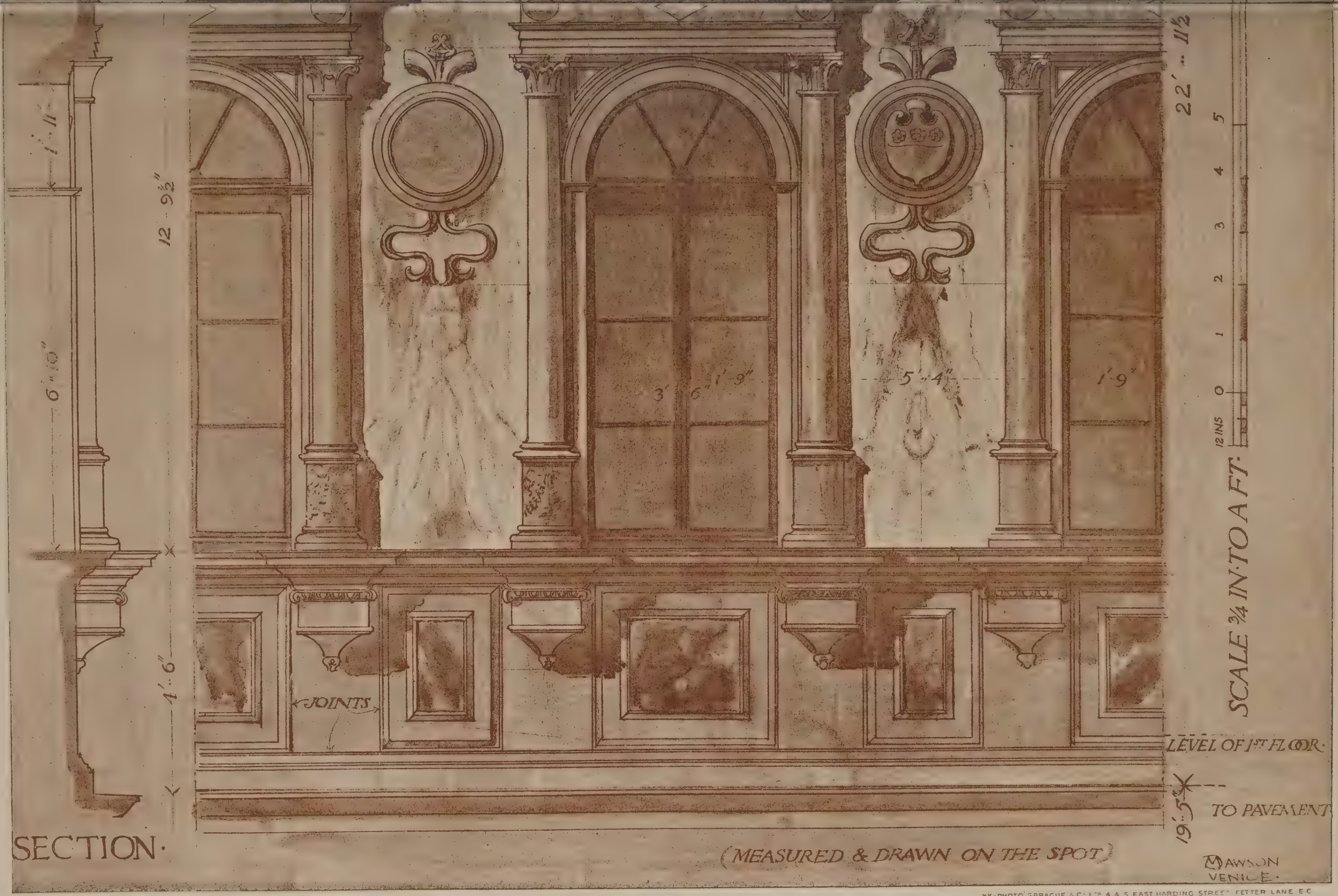

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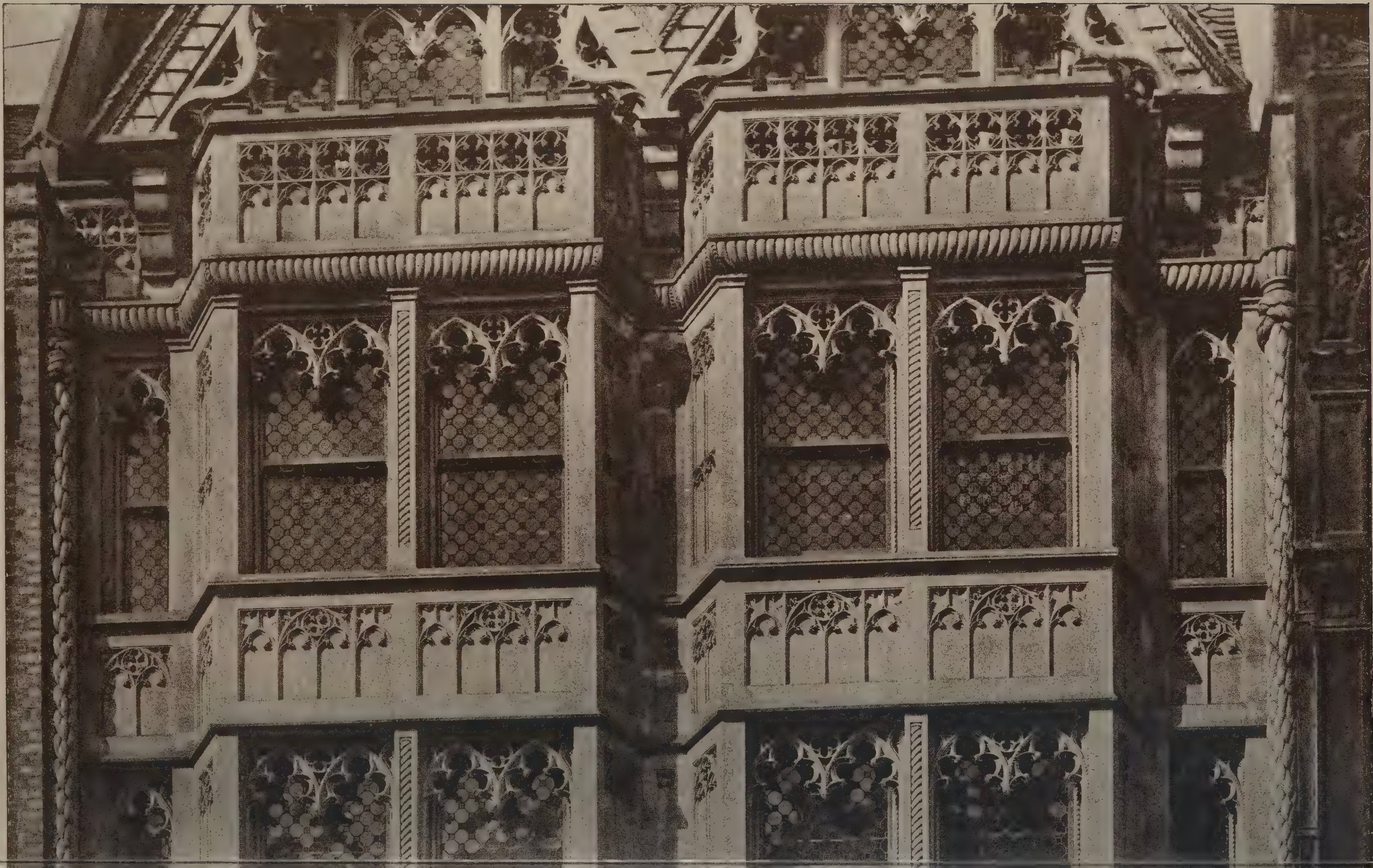

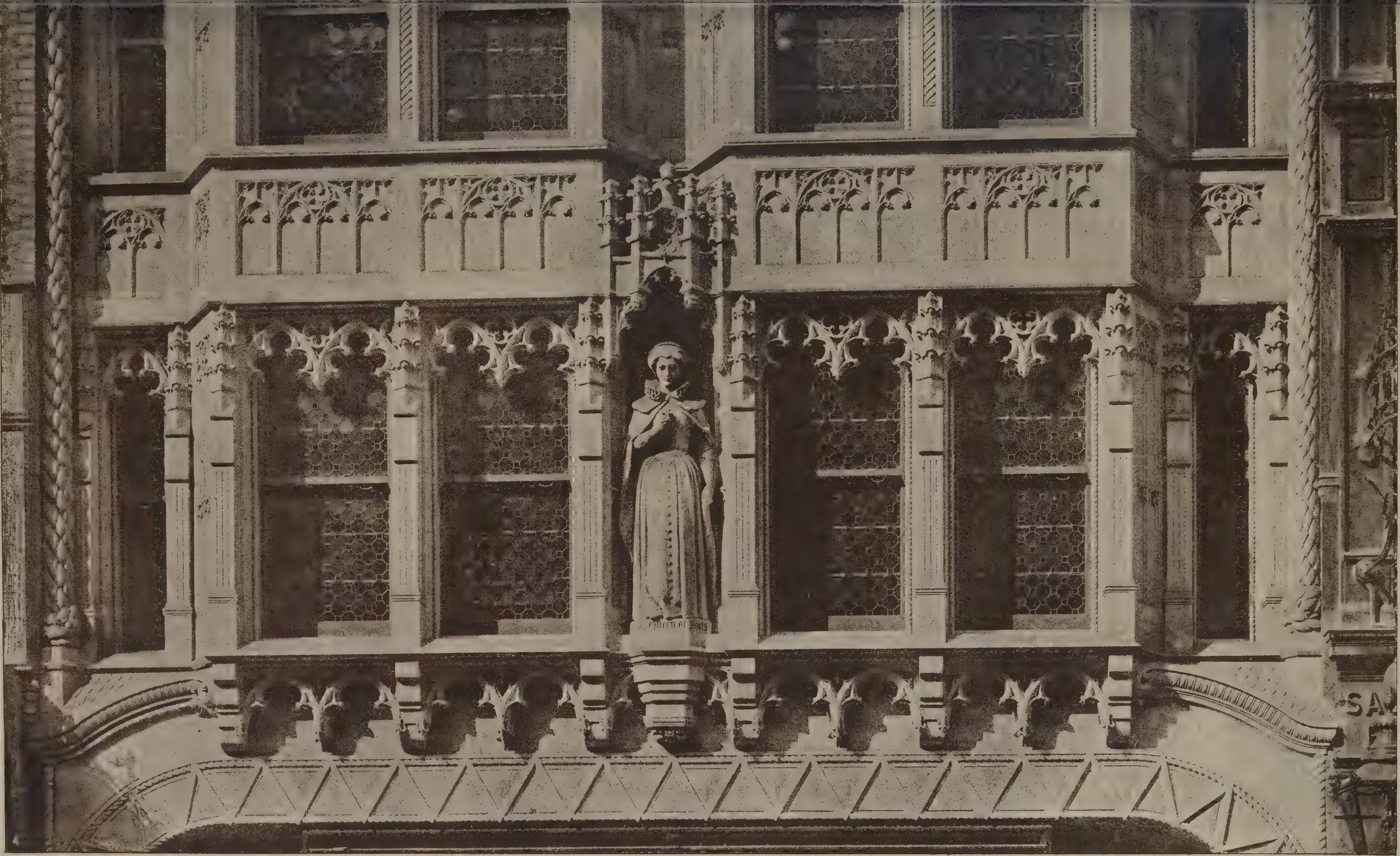

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143 AND 144 FLEET STREET, E.C.

RICHARD M. ROE, F.R.I.B.A., Architect.

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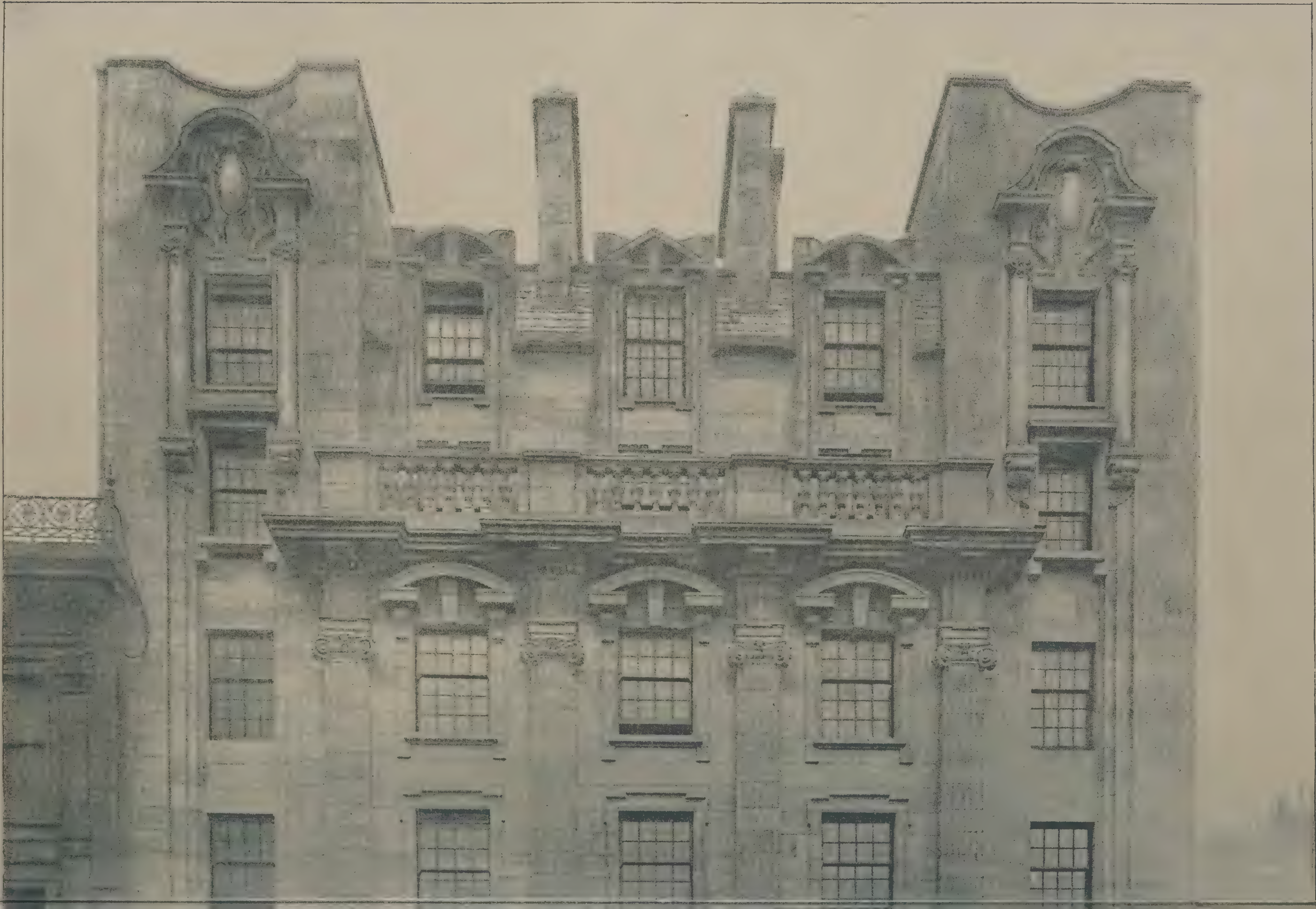

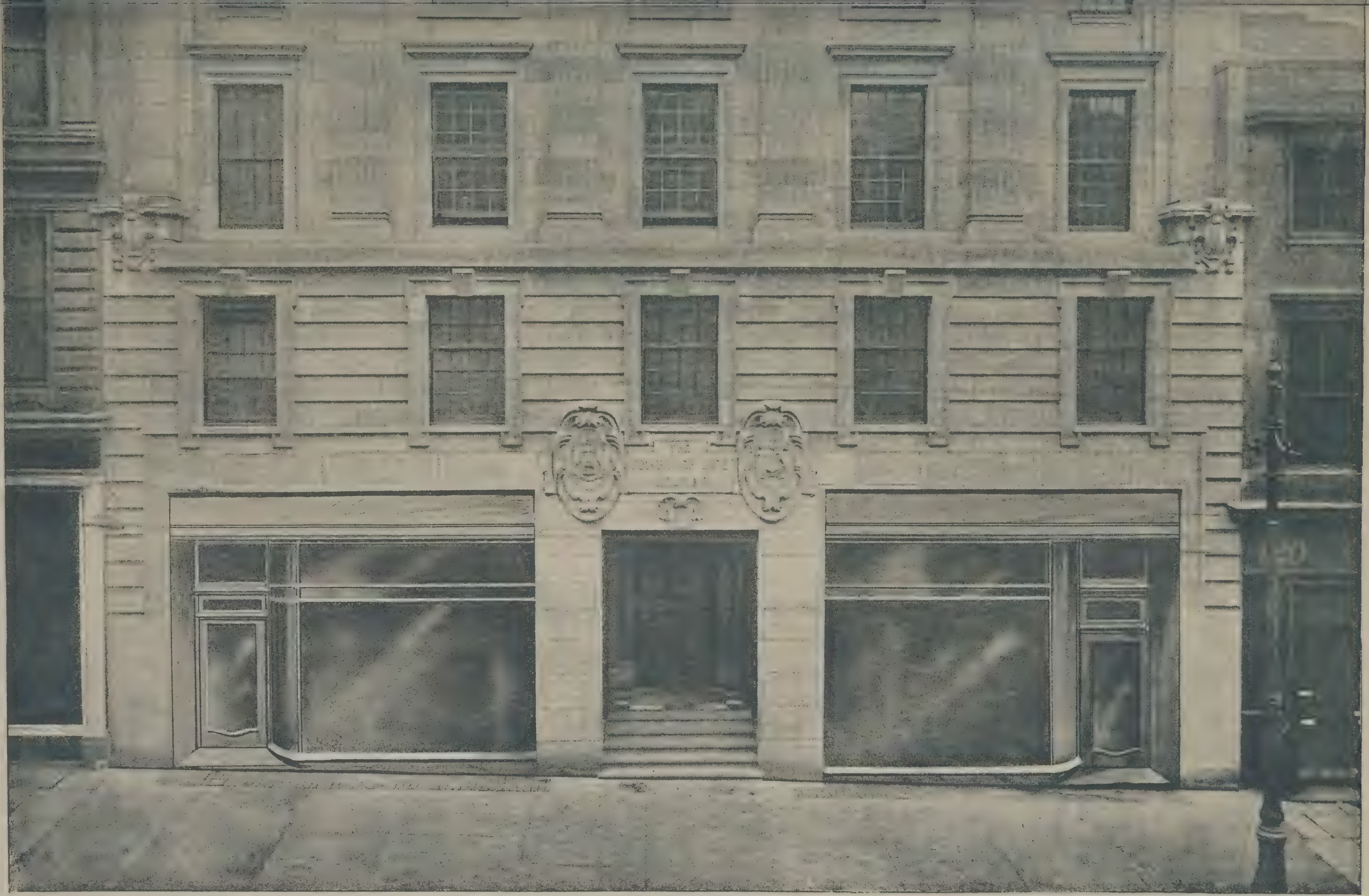

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NEW BUILDING OF THE EDINBURGH LIFE ASSURANCE COMPANY, 122-128 ST. VINCENT STREET, GLASGOW.

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The Architect.

THE WEEK.

The decision which was given on Monday in the Divisional Court by the Lord Chief Justice, Mr. Justice Ridley and Mr. Justice Darling suggests the limitations of local authorities. The case arose out of the expenditure of 3,050*l.* on the Madeira Road, Brighton, by the Corporation. An application was made by a ratepayer to have the orders for payment quashed. The existence of Brighton depends on the influx of visitors, and it is supposed to be the business of the Corporation to attract them by having the place in the latest style. But the law does not recognise any extraordinary outlay with that object. The Madeira Road was in as good a condition as any other in the town. In 1897 it was proposed to try the experiment of laying down tar-macadam on it at an extra cost of 1,000*l.* But the Corporation declined. In 1904 the Automobile Club proposed to have trials or races on the Madeira Road, and in the expectation that Brighton might be made the annual place of meeting it was decided that tarmac, which is a variety of tar-macadam, should be employed. It was supposed to have one advantage in the absence of dust and mud, and another in the rapidity with which the surface dried after rain. In order to carry out the operations the road was closed to general traffic, and the public were also to be excluded while the races were in progress. Application was made after the commencement of the works to the Local Government Board for authority to raise the money. It was refused on the ground that the road was in good condition, and that the new works were only intended to provide a surface for motor trials. The work was done, and as the orders for payment have been quashed by the Court it is difficult to discover from what quarter the money is to be obtained. The Corporation went beyond the authority which they could exercise under the Public Health Act, and they must now accept the consequences.

Last year there was surprise when the Government report was published concerning the condition of the habitations in Lewes. Apparently not the least improvement has been accomplished. According to the report of the medical officer of health, there is an excessive number of deaths from consumption and other tuberculous disease, and especially from infectious disease. But how is a remedy to be found? The report says:—"The proprietor of the island, though willing, cannot build some thousands of clean and comfortable cottages from his own purse, already drained to the utmost by poor and school rates. It has been said that the local sanitary authority should do its duty and compel these poor people to conform to twentieth-century notions as to the propriety of dividing the human and bovine elements. I lately visted Arnol with this point chiefly in view, to find that this separation meant next to no real sanitary improvement, that it was impossible to drain Arnol without moving almost every house away from the muddied hollow in which it lies, rebuilding it on the higher ground adjacent, and finally digging a deep and expensive ditch through the rock to carry off obnoxious liquid matters." The inhabitants have to depend mainly on fishing, and there is no money. They cannot contribute towards the cost of improving their dwellings. The island must be considered as one of the blots on civilisation, and as the survival of manners and customs almost prehistoric.

It is a common belief among those who have only a superficial knowledge of American ways that there is a good deal of "leakage" in all contracts with the Government which the taxpayers have to endure. Contracting is supposed to be closely connected with election engineering, and all adjuncts of a similar class entail expenses which ultimately must be paid out of the public revenue. From time to time reformers arise who profess their resolution to put a stop to such malpractices. But such men generally discover that their tenure of office or influence is of short duration. Some time ago it was decided to make an example. Actions were taken against three contractors for embezzlement and for making claims for payment for work which had not been executed. The United States retains many of the principles of English law, and among them is a belief in the advantage of lengthening out proceedings. It therefore required no less than seven years action and an outlay which is estimated at 20,000*l.* to bring about a conviction. Two of the defendants were convicted, and each was sentenced to four years' imprisonment and a fine of about 115,000*l.* The judgment will suggest the magnitude of the operations, which must have been on a scale befitting the greatness of America. No one believes the sentence will be carried out in its entirety. By showing signs of contrition the length of the imprisonment can be greatly reduced, and it is only necessary for the men to make affidavits that they are poor in order to be relieved from the fine. Sanguine Americans, however, believe that the result will be a warning.

Although exploration in Egypt is carried on by British and foreign societies as well as individuals, Lord Cromer is not neglectful of the subject. There are now four inspectors in the Antiquities Service. During last year good work was done. Several statues, some of which are of great value, were discovered at Karnak. Much is anticipated from the excavations at Sakkarah. A very large tomb belonging to one of the Pharaohs of the earliest dynasties was opened at Zawiet-el-Aryan. An American gentleman, Mr. Davis, has discovered the tomb of the father-in-law of Amenhotep III. at Thebes. It contained a collection of very beautiful objects, which have been all transported to the Cairo Museum. M. Maspero has prepared an estimate of the cost of consolidating and repairing the different monuments in Nubia. He reports that at Philæ all continues to be satisfactory, and that all immediate danger appears to be overcome. The quantity of saltpetre has been diminished and is removed more easily than formerly. The great catalogue of the museum has made considerable progress. Nine volumes appeared last year, bringing the total published since 1901 up to fifteen. M. Maspero thinks that the work of compilation may be completed in three years time, and that of printing in six years. Money has been expended on the preservation of Arab monuments, including the Sultan Harsan Mosque, the restoration of Coptic churches. Both the Government and the Coptic community are said to be indebted to Mr. Somers Clarke for calling attention to the condition of the monasteries at Sohag.

There was a fear that Trentham Hall, which was the gift of the Duke of Sutherland to Staffordshire, would become a sort of white elephant, for it was not adapted for a technical college as the donor suggested. The Director of Education for the county has been asked to report upon the building, and he suggests that it might be used as a training college for women teachers. It has yet to be ascertained whether the Duke of Sutherland will agree to the change. The county medical officer of health has to recognise that many of the sanitary defects connected with the building arise solely from the inadequate means of sewage disposal. The sanitary authorities, however, above Trentham are now engaged in the construction of sewage disposal works, and it is anticipated that within two years the nuisance will be removed. It will therefore be seen that no definite resolution has been taken about the future of the building.

ARCHITECTURE AT THE ROYAL ACADEMY.

THE oldest and most regular visitor to the exhibitions of the Royal Academy must acknowledge that he never saw such immense drawings as appear this year in the Architectural Room. It might be imagined that certain architects were advised to exceed the customary dimensions. If justice is to be done to buildings they should be represented on a scale which allows of a scrutiny of all the details. But if the foreign architects, who are expected to visit London in a couple of months, should be attracted to the Academy, they are sure to wonder why their art, for which admittedly large size drawings are necessary, should be "cabin'd, cribb'd, confin'd," within so small a room. They will also be puzzled to discover why some buildings, parts of buildings, and even objects to be used in them, should be presented on a large scale, while no less important buildings are drawn to a size which can only be suggestive of their general effect. To anyone who is familiar with the Architectural Room the walls recall topsy-turveydom, but strangers may believe there is nothing exceptional in the aspect, and that architects must occasionally suffer from the whims of officialdom. It is certain that the owners of rejected drawings which were of the ordinary sizes will have less reason to regret their absence from the exhibition than on other occasions, for owing to the arrangement adopted the attention of visitors is likely to be given to those views alone which are remarkable for their size or manner of treatment.

Fortunately, the majority of the buildings which appear on large drawings are well deserving of notice. Architects will be glad to see that once more Mr. Norman Shaw is the contributor of no less than five of the drawings of the class to which we have referred. He has been so long absent from the exhibition that his latest works will be welcomed not only for the sake of the author, but for their treatment. We may even go so far as to say that if those relating to the Regent Street improvement are carried out, they will make a beginning of a new era in London architecture. The view of his "Alliance Insurance Office, St. James's Street," will of course recall to visitors Mr. Norman Shaw's insurance office at the Pall Mall corner of the street. The earlier indicated an approach towards Classicism, but the later design shows a building that can be considered as Italian. It is one among many proofs of the hold which Italian rather than Flemish precedents are gaining on the architectural mind. The designs for the Piccadilly Hotel, which were prepared for the Office of Woods, and the different views of the Quadrant, which were also inspired by the same authority, are enough to make John Nash disturbed when he thinks of the opportunity he lost. He was controlled by cheapness and flashiness. But since the days of the Regency London has increased in wealth, and investors in building can be compelled to accept an expenditure which at one time would be impossible. It would, however, be interesting to have the report of a committee of Regent Street shopkeepers on the designs. They would not be unlikely to maintain that although the new buildings would serve for insurance offices, they are not adapted for the requirements of trade. It will no longer be possible, if the designs are adopted, to have it appear that the shop-front is everything, and that it mattered little whether, constructionally or financially, the upper part of the premises were supported by a signboard and a large plate of glass. Mr. Norman Shaw would substitute an arched construction in the ground floors of all the premises in the Quadrant. The Office of Works can insist on the arrangement. If obeyed, it might not be prejudicial to the shopkeepers' interests, and if so, we should then expect, as we have said, to witness a change which would be revolutionary.

Sir Aston Webb sends a "Detail Elevation of the New Admiralty Building at the East End of the Mall." This is admirably treated, and without any apparent straining becomes a memorial of Nelson, whose memory merits recognition in such a building. Another work of the architect is "New Almshouses at the Hendre, Monmouth." But the most important is the view of "The New Royal College of Science and Government Offices in Dublin," by Sir Aston Webb, R.A., and Mr. T. M. Deane. The buildings are arranged around a square, and the two entrances are of a different character. One opening on Merrion Street is an interesting composition. The doors are flanked by figures in niches and the upper part has a cupola conferring dignity on the block.

The competition for the Wesleyan Methodist Central Hall, Westminster, is recalled by several designs from Messrs. Crouch, Butler & Savage, Mr. J. A. Swan, Messrs. Rüntz & Ford, Mr. E. Vincent Harris (2), Messrs. Mallows & Cross and Messrs. Lanchester & Rickards. The instructions in this case were precise, and like tenders from well-arranged and explicit quantities, there is more or less resemblance between them. Mr. H. T. Hare shows a large sheet of details from the Central Library at Islington, the windows being flanked by unfluted Ionic columns. His "Premises for the U.K. Provident Assurance in the Strand" have a liberal use of figure sculpture on the pediments and elsewhere. The "High Bay of Choir, Liverpool Cathedral," by Mr. Gilbert Scott, is of immense size. The stone employed is of a rather gloomy colour, and if it were not for the greenish-blue light of the windows the effect would be still more solemn. The windows are remarkable for breadth rather than height. But the area for lighting will no doubt be adequate. The boldest experiment in church work is "A Steeple Leaded," by Sir C. A. Nicholson. The walls of the church are supposed to be of red brick, which offers a marked contrast with the lead on the spire and pinnacles. As the lead is cut out into patterns there is no monotony or heaviness. By the same architect is the new "Parish Church, Epsom," which somehow produces the effect of one that has gone through a series of transformations and had a history. The fine design for "Municipal Buildings, Law Courts and Town Hall, Bournemouth," by Messrs. Mallows & Lacey, is again on view, and again will receive general admiration. The "Royal Exchange Buildings," by Messrs. George & Yeates, are shown on a coloured drawing. It is a concession to modern city requirements, but neither in the drawing nor in the design can we recognise the old spirit which was for so long almost dominant in the Architectural Room.

One of the remarkable drawings of this year is "A Design for a Town Mansion, with Surroundings," by Mr. J. A. Slater. This is a veritable painting, and in any other year would impose itself on the attention. Now it has rivals, although they may be less pictorial. The mansion would be adapted to Spain, but anywhere it would be remarkable. It is one of those exemplifications of a theory which are occasionally produced. The designer wishes, we presume, to emphasise the applicability of straight lines. The roof is not visible and squareness is dominant. But a contrast is offered by the arched entrance and some curved lines in large tiled panels. It is well adapted for occupants who despise conventionalities. "The Woolwich Town Hall" is a capital building, and looks well whether seen in perspective views, photographs or geometrical drawings. But the new exterior view loses much of its effect by the ambition of the colourist, who sought chromatic effects of an unusual kind. Mr. F. T. Verity's "Mansion Flats, 25 and 26 Berkeley Square," are admirably suited for residences of the kind in an expensive district. Although there is uniformity in the treatment of the storeys, there is no monotony or suggestiveness that one floor is of a better class than another. The large group of "Buildings in connection with the Westminster Improvement Scheme," by Mr. W. D. Caröe, is not reminiscent of old Westminster.

But the group appears to be well adapted for its purpose and there is no lack of variety.

The most important model is one of "The New Structure in Williamson Park, Lancaster," by Mr. John Belcher. The approach is by many steps, and at first sight suggests a French design for a great cascade fountain. At the summit is a domed building, which from its position will become a pleasing landmark. A second model by Mr. Belcher is the upper part or crowning feature of Winchester House. As it is accompanied by a little drapery, it will to some visitors be suggestive of an element of decoration which has no fellow at the other angles of the room. Mr. Alleyne Creswick contributes a model of a proposed house at Buenos Ayres. This is one of the ultra-symmetrical class, and appears to be large enough to serve as a public building. The model of the monument to the late Marquis of Dufferin and Ava in Belfast represents an architectural shrine by Mr. A. Brumwell Thomas, with a statue of the statesman and figures of an Oriental and a Canadian by Mr. F. W. Pomeroy. The style is Italian, and the dome is surmounted by a figure of Fame. It will be a great improvement on the ordinary public memorial.

MODERN TUNNELLING.*

The volume by Mr. Stauffer on tunnelling is one of those which suggest that the Americans are fast becoming the best of all writers on construction. In this country we are supposed to believe in the diffusion of useful knowledge. But the men who prepare plans for architectural or engineering works are not disposed to part with the information which they may have acquired with difficulty. In the United States, on the contrary, mysteries are only allowed to exist for a short time. As soon as arrangements are made for starting the work the drawings and specifications can be referred to by those who are eager to treat of the latest arrangements which the contractor has to realise.

The construction of tunnels is one of those subjects which must appeal to all admirers of American enterprise. We seem in England to have hardly escaped from the wonder which arose when the Primrose Hill Tunnel and the Thames Tunnel were formed. Engravings were at once brought out of both as examples of the sights of London. But, although tunnelling advanced in connection with railways, both Brindley and Telford were obliged to employ tunnels earlier on canals. The work generally presented many difficulties, not the least being the laying out of the leading lines. The cutting was accomplished without any more force than the muscles of navvies, which apparently was the force employed on the Greek and Roman examples. The difference between early and later practice mainly consists in the number of aids the engineer and contractor can call in, and through which many of the obstacles which at one time had to be surmounted with difficulty and at a heavy expense are now subjected with comparative ease. Mr. Stauffer begins by suggestions respecting tunnel location. In England there is only a month allowed for preparing Parliamentary plans of a new railway, and no time can be devoted to a geological examination of any hill that has to be pierced. Let powers be once given for the construction, and the money forthcoming, plenty of contractors will be ready to grapple with the difficulties. In laying out the centre line, instruments can be used which were not available in the days of Brunel and Stephenson. Mr. Dunham, who is an authority on tunnelwork, "removes his line from the centre of the tunnel approach, where it is always in trouble, to one side of this approach." He has adopted other methods by which the necessary instrumental work can be done in a fourth of the time required for the older methods. Time is money with the Americans, and they wish to have laying-out performed accurately and expeditiously.

The modern contractor, unlike his early predecessors, is not confined to the use of gunpowder for blasting. It is still used, and some contractors prefer it to all other compounds. But there are also varieties of nitro-glycerine, nitro-gelatine, dynamite, lithofracteur, forcite, joveite, &c. Electric firing was, we believe, first employed by Cubitt on the South-Eastern line, when in one operation 7,000*l*. was saved. It is now available for small works, and it has the advantage of diminishing accidents among the workmen. Anyone who has witnessed a serious explosion through gunpowder must feel grateful to the inventors of the new mixtures.

On the South-Eastern works near Dover Cubitt also found it economical to open lateral shafts to his tunnel. But as a rule it is necessary to sink them vertically. For this preliminary work there are several systems which have superseded in most places excavations. The following is one of them :—"The freezing process is employed under circumstances which warrant the necessary expenditure in sinking a shaft through water-bearing material. In this process the ground and the contained water is frozen to a solid mass for some distance outside the limits of the shaft by first sinking vertically a circle of special double pipes, penetrating to the full depth of the proposed shaft, and then circulating through these pipes brine or other freezing compounds. When the ground is sufficiently solid the shaft is excavated and lined in the usual manner."

The Americans sometimes use steel to construct the shaft-house. In one example 265 tons of structural steel were employed. Timber, however, continues to be in favour. The Americans still adopt the English system by which a heading is first driven. The Belgians prefer to construct the arch at first, while the Germans construct sides and top, leaving a central core or mass to support the timbering. Many arrangements are adopted in America, according to the nature of the material which has to be passed through. Although England began the construction of subaqueous tunnels with Brunel's great work, and the London County Council have imitated the example, the Americans can also point to several fine instances. The St. Clair Tunnel between Lakes Huron and Erie is at a depth of about 60 feet below the water bed. The East Boston subway has a length of 2,250 feet under an arm of the harbour. The Harlem River Tunnel is a remarkable work, and was economically carried out by a sub-contractor. The Hudson River Tunnel, which is now in progress, will present the novelty of having the two circular tubes each supported by a row of 27-inch screw piles spaced 15 feet apart. This is owing to the formation of the river bed, which is a fine silt.

American subways were first constructed in 1895, when 5,600 feet of double-track subways and 3,500 feet of four-track subways were planned for Boston. The construction consisted of a concrete invert, side walls of steel columns with concrete filled between, and a roof of plate girders or I-beams with brick jack arches between them, the whole covered by concrete. In the four-track lines a middle column supported the roof. Tie rods were also used to prevent deformation of the arching. The East Boston Tunnel is mainly of concrete. New York can likewise show remarkable subways.

The chapter on plant would amaze any of the old English tunnel builders. Electric motors in some cases are used for hauling the superfluous material, and electric lamps for illumination. Another ingenious appliance is a cement-mortar car for lining tunnels, on which the mortar is made, and it can also be used as a platform for working. On one of the New York lines the steam-shovel was operated by compressed air. The system of delivering and measuring bricks which was adopted in the drainage works at New Orleans is worth mentioning. "The bricks were made near Lake Ponchartrain, and as these bricks were taken from the kilns they were piled on special crates holding 1,000 bricks each. These crates, with the bricks, were picked up by a derrick and loaded upon barges, each barge carrying 100,000 bricks. This barge was towed to a city landing, and the crates and bricks were again picked up and deposited directly on the material cars, each car carrying 4,000 bricks. The bricks were finally dumped on the work within reach of the bricklayers. This saved much time and expense in avoiding rehandling, and materially reduced the percentage of breakage." We need not consider the chapter relating to cost, because the data are derived from American examples. Mr. Stauffer has obtained exact accounts of costs, and these he has arranged in such a way as to provide a series of units for the benefit of engineers and contractors.

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* *Modern Tunnel Practice.* Illustrated by examples taken from actual recent work in the United States and in foreign countries. By David McNeely Stauffer, Member of the American Society of Civil Engineers, &c. (London: Archibald Constable & Co., Ltd.)

When the Primrose Hill and Kilsby Tunnels on the London and North-Western Railway were constructed there was alarm about the danger to travellers in passing through such caverns. The company employed some physicians and chemists to examine the condition of the air, and they came to the conclusion that the risks in passing through well constructed tunnels are no greater than those arising in travelling on an open railway or a turnpike road. The only provision for ventilation in those days was an occasional air-shaft, which was as much used for giving light and for refuges as for withdrawing foul air. Modern tunnels have more elaborate appliances. They not only have outlets but powerful fans. Each fan in a subway of Pennsylvania has a capacity of 150,000 cubic feet per minute. Air-locks or caissons are another feature in modern construction. In the description which was printed last week of the Thames Tunnel now being constructed between Stepney and Rotherhithe, it was said that if one of the workmen passed suddenly out of the compressed air into the ordinary atmosphere he was likely to be killed. The pressure by the air-locks, however, was gradually reduced, and it would take three minutes to pass through them. In describing one employed on the Hudson River works Mr. Stauffer says:—"Each chamber contains two narrow beds, and beneath the floor are located steam-radiating pipes for heating the chambers. Incandescent lamps are also provided, and glass windows permit the attendant to watch the patient from the outside. Fresh air is provided by a special valve arrangement, and all valves are controlled from the outside, so that an impatient workman cannot interfere with them in his desire to get out at a quicker rate than is safe. In releasing the patient from the lock two or more hours are consumed in letting off the pressure."

In his "Tunnel Notes" Mr. Stauffer introduces several facts which may be considered as supplementary to his other chapters. One series relates to the efforts made to render concrete watertight. The author says:—

> Silicate of soda and soap and alum have been mixed with cement in an attempt to make the mortar watertight. Prof. W. K. Hatt conducted experiments with these mixtures. He found that the effect of the silicate of soda diminished the strength of the mortar more than 50 per cent., and diminished the absorption of ash mortars about 50 per cent. The soap solution alone does not increase the strength, but does decrease the permeability about 50 per cent. The effect of alum and soap was to strengthen the mortar and harden it, with 50 per cent. decrease in absorption. Prof. Hatt used a 5 per cent. solution of ground alum and water and a 7 per cent. solution of soap and water. The alum water was mixed with the mortar in the proportion of one-half the ordinary gauging water; the soap solution was then applied to bring the mortar to the desired plasticity. The soap and alum acting together cause the precipitation of an insoluble compound in the pores of the mortar.

The concluding chapter deals with the Simplon Tunnel, which may be at present considered from its magnitude the climax of tunnel construction. Hereafter it may be surpassed by a still greater work in the United States. There are no disquisitions or speculations in Mr. Stauffer's work. Throughout he deals with actualities, and his book can therefore be taken as representing the latest efforts of an ingenious people to promote communication beneath the surface of the earth.

SAN FRANCISCO.

THE effect of the news of the earthquake in San Francisco on architects can be inferred from the following article which appeared a couple of days afterwards in the *American Architect*:—

Carthago fuit! The old school phrase must have occurred to many a man on Wednesday, as he watched with growing apprehension the startling and hardly credible news from San Francisco as it was posted on the bulletin boards. The disasters attending the outbreak of Vesuvius a fortnight ago have been far outdone by those which attended and followed the earthquake—the severest that has occurred on the Pacific Coast—that rocked and rended the city shortly after five in the morning of April 18. In the case of seaboard cities affected by earth shocks of magnitude, damage is to be expected not only from the shock itself but from the reflex or "tidal" wave, as it is usually called, which often adds the prolonged agony of drowning to the speedier pang of a crushing blow. But though both kinds of disaster are common, if occasional, it adds a new horror to such catastrophes to be reminded how the public utilities man has provided for his own use and comfort may by nature be turned against him. The ruptured gaspipes added fuel to the fires that were everywhere lighted amongst the ruined buildings and, as the same stresses had burst the water-mains, there was no water the firemen could use, even when they were not prevented from getting their engines out of engine-houses either crushed or with exits choked with débris.

While every citizen is concerned by the catastrophe, architects and builders are particularly interested, a few because they entertain the ghoulish hope that, because of it, they may secure fresh "jobs," but the many because they expect to learn facts of the utmost value to them. Ever since the introduction of the steel frame architects have been looking forward with expectant eagerness to the time when the stability of the new style of building should undergo a real earthquake test. Of course, the finite cannot compete with the infinite, and no architect imagines he can build anything but a pyramid or a concrete sphere that would sustain the severest shock that nature, presumably, could inflict; but if he can by the use of the steel frame build structures that will endure the strains that would shake to pieces buildings constructed of other materials and on other lines, he desires to be assured of it at the earliest possible moment. The long-desired test has now been had in extreme form and the entire building world is ready to digest the expert testimony that may, in a few days, be expected to disclose just how the earthquake affected the few "high buildings" in the city, particularly the Claus Spreckels Building, which was designed, eight years ago, by the Reid Bros., and which for its day was an exceptionally good piece of construction. It is unfortunate that the effects of the earthquake proper have been obscured or destroyed by those of the ensuing conflagration and the exploding charges of dynamite used in blowing up buildings in the path of the fire. The early testimony is that the steel-frame buildings sustained the shock with fair success.

But the shield has two sides, and though the brighter one is not so cheerful as the sinister one is dark, it is probable that San Francisco, like Chicago, Boston, Baltimore and other fire-swept cities, will in later years realise that its costly purification was advantageous. A wholesale destruction of a community's property by fire may, by fair analogy, be considered identical with the discarding of out-of-date, though still serviceable, machinery that so often in these days is practised by progressive and long-sighted manufacturers. San Francisco is, fortunately, in better position to reap advantage from its misfortunes than were the earlier afflicted cities, since Mr. D. H. Burnham has for months been studying the situation and preparing a report —possibly already filed—of a scheme for improving the city through the formation of new streets, parks, parkways and so on, and the present disaster may possibly make the adoption of his suggestions all the more practicable, while the fact that he and his assistants have so thoroughly considered the topographical, social and commercial conditions of the whole city will make it all the simpler for them to cope with the new problem of laying out afresh the burned-over district.

But while San Francisco is the chief sufferer, it is not by any means the only one, and amongst other towns that suffered was Palo Alto, where, as the early reports have it, the interesting buildings of the Leland Stanford, jun., University were practically destroyed. If the report is true and these low masonry buildings, new, exceptionally well-built and expressly intended to be earthquake-proof, have seriously suffered, while steel-frame structures have escaped essential damage, the contrast will provide instruction in a form most easily digestible by layman and expert.

Whatever else may prove to be the case, this San Francisco disaster may be different from all others in the manner in which the final losses are adjusted. In the cases of the earlier "great fires" the loss was really distributed and assessed upon the country at large, through the collection of insurance from the guaranteeing companies—except where they went to the wall under strains greater than they could bear. But in the case of San Francisco—unless policies in that earthquake-affected district give specific protection from loss through shock and resulting fire—it is probable that the insurance companies will contest every claim, and the burden of proof that the insured building was unaffected by the earthquake at the time fire seized upon it must rest upon the owner, and, as such proof must be very difficult to procure, the chances are that such owners will have to shoulder their own total losses.

A similar view was taken by the *Engineering Record*:— The San Francisco catastrophe has not been reported in any detail up to the time this part of the paper goes to press, and accordingly it is only possible to point out that steel-cage construction has again vindicated its claims for structural superiority. While buildings of the ordinary commercial and warehouse type were shaken down like houses of cards by Wednesday's earthquakes, the more imposing buildings of the steel-cage type resisted the swaying of the earth and were injured by fire alone, except in some of their more fragile portions. The tremendous shaking the unfortunate city received not only opened the gas mains and wrenched boiler plants and smaller furnaces so that fire sprang up in many places, but it also wrecked the system of water mains in those districts where water was most needed to check conflagrations. The fires were fought by dynamiting small buildings, but this is a feeble method and the results were naturally poor. The important lesson of the disaster is the necessity of better construction of buildings in a city so subject to earth tremors as San Francisco. Small vibrations occur there frequently, and indicate the probability of occasional greater disturbances. The Japanese have recognised this fact, and have been constructing their more important buildings with steel-cage frames. The palace of the Crown Prince, which was described in this journal a few years ago, is an excellent example of a comparatively low building designed with special reference to high resistance to earthquakes. It is out of the question, of course, for residences and small commercial structures to be built with steel frames, but it is equally incorrect to rely on ordinary methods of framing in a locality where the joists of a floor are likely to be shaken out of the wall recesses where they rest. At this writing the greatest loss of life seems to have occurred through the collapse of floors in this manner. Until more complete information is available, however, it is futile to attempt any elaborate discussion of the technical details of this great calamity.

SWEDISH ARCHITECTURE.

The history of Swedish architecture begins with the establishment of Christianity in the country during the eleventh century. The primitive architecture, of whose productions we find examples in the small country churches of Westgotland, experienced its first tendency to elevation at the erection of monasteries in various parts of the country by the Cistercian order. The church of Varnhem in Westgotland—preserved from one of its foundations—is the chief memorial of Romanesque art in Sweden, and is secondary only to the splendid cathedral of Lund, a construction from the twelfth century, comparable to the Rhenish cathedrals.

Most plentifully, however, the creations of Swedish Mediæval art are to be found in Gotland. A whole cast monument of this art is the city of Wisby with its mighty town hall still in good repair, its streets, its houses and its many churches, which latter, with one exception, certainly are fallen into ruins, but yet can be seen in a state of preservation complete enough to make clear what once they were. These churches belonging to the eleventh and following centuries, the fourteenth inclusive, and representing all the phases of Mediæval architecture except the late Gothic style, are each of interest by their original composition. The oldest is the Helgeand Church, a peculiar central construction; the most beautiful is considered to be St. Catherine, built in the early Gothic style. In its rural districts Gotland possesses quite a treasure of churches, in perfectly good repair, from the same ages. Unpretentious in size, they excite surprise by their original designs, their well-calculated proportions, and their rich and characteristic details. The typical ones are independent variations of the Romanesque basilica and of the Gothic hall-church with columns. The most beautiful churches date from the thirteenth century, and represent a transitional style uniting the imaginativeness and elasticity of the Gothic with the calm plasticity of the Romanesque style, a style of architecture so original and so artistically put into effect that it is entitled to a name of its own—the Gothland style.

Among the works of Gothic architecture on the mainland ought to be mentioned the splendid cathedral of Linkoping, begun during the Romanesque time, but completed as a Gothic hall-church, in the details of which Gotland prototypes have been traced; further, the Skara Cathedral and the church of St. Bridget's Nunnery at Wadstena—these, like all the other edifices mentioned above, built of cut stone. A Romanesque brick church will certainly be found here and there in Skane, but it was only with the Gothic style that—by North German influence—a real brick architecture arose, which in Southern Sweden has left the richest specimens of its production, and in the central part of the country displays more unpretentious but more independent forms. A combination of stone and brick architecture exhibits itself in the foremost Mediæval building of Sweden, the Upsala Cathedral, a nobly proportioned structure, whose prototype is taken from Northern France, with most of its details carried out in stone, but the masonry framework in brick. Many Swedish Mediæval churches, among which specially some small country churches in Roslagen, are adorned with beautiful and characteristic painted vaults. Of secular Mediæval architecture Sweden has comparatively few remains; amongst such may be mentioned the so-called old Pharmacy in Wisby, and the castles of Wik in Uppland and of Glimmingehus in Skane. Wood architecture, which preceded stone architecture, subsisted at the side of it, and no doubt has exercised an essential influence on the latter, was probably highly developed during the whole of the Middle Ages, and was related to Norwegian art of that kind, but only very few remains have come down to our time; one, however, is the so-called Ornasstugan in Dalarne.

The Renaissance, like the preceding new epochs of art, arrived late in Sweden. It does not make its appearance till in the second and third decades of the sixteenth century, and is contemporary with the Reformation and the political emancipation of Gustavus Vasa. If the Renaissance and Protestantism, in general, mark a transmission of the architectural centre of gravity from the religious sphere to the profane one, this will be especially the case in Sweden, where ecclesiastical property about that time was in great part transferred to the Crown, so that many a monastic building had to provide the stone material of the castles erected by Gustavus Vasa and by his sons. These castles, being partly continuations of Mediæval structures, partly completed new buildings, are the characteristic edifices of Swedish Renaissance. To the former category belongs the chief of them, the castle of Kalmar, an extensive and picturesque building, among the details of which especially, the well is an interesting work of art; also Gripsholm, at Lake Malaren, a Mediæval castle reconstructed during the Renaissance, and enlarged also during the following centuries; it forms a complex group of buildings with an exterior quite simply made of brick, but containing rich and picturesque interiors. Foremost among the new-built castles stands the beautiful Vadstena at Lake Vettern. Unfortunately the old royal palace of Stockholm—also of Mediæval origin, and perhaps the grandest work of Swedish Renaissance—was destroyed by fire in 1697.

The first artists of the Renaissance in Sweden were chiefly Germans and Dutchmen, after them a Swedish school by-and-by developed itself. Distinctive features of the style are:—Exteriorly, a simple effect produced by the bulk and enlivened by solitary details, amongst which specially the portals are of a superior character; and interiorly, a decorative system, at times magnificent, at times of unaffected loveliness and often produced with the simplest means. The few churches erected during that period (the end of the sixteenth century) are imitations of the Gothic style.

The wood architecture inherited from the Middle Ages was further developed by the Renaissance as well as by later epochs. Its best productions are the belfries often to be seen at country churches, and revealing a constructive power brought to a high degree of perfection at the side of an artless but sensitive formative ability. The same conditions are noticeable in sundry churches, *e.g.* that of Habo in Westgotland; further in many peasant houses, especially in Dalarne, in the harbren or larders peculiar to that province, in the so-called Bjorkvik Fatbur (larder), &c.

The Baroque style has three phases of development in Sweden. The first covers the beginning of the seventeenth century, and forms a somewhat modified continuation of the Renaissance. To this era—to that of the early Baroque—belong several handsome country seats, as, for instance, Tido in Uppland and Lecko at Lake Wenern, as well as a number of palaces and houses in the towns which at that time displayed a lively structural activity. Characteristic of the period is also an increased interest in ecclesiastical art, certainly resulting in sundry rconstructions and new buildings, amongst which ought to be mentioned the little, abundantly decorated German church of Stockholm and the magnificent church of Kristianstad, erected by Christian IV. at a time when that town belonged to Denmark, but especially in decorative details, portals, sepulchral monuments and movables with which old churches are fitted up. A German trait of character has often put its stamp on the architecture of that age, especially on the burghers' houses, which mostly are architectonically decorated.

The next era—that of the later Baroque—coincides with the era of Sweden's political greatness during the latter half of the seventeenth century. Castles and palaces, in which particularly the capital and the Malar provinces now begin to abound, are erected on a scale hitherto unknown, and the previous more serious character of style passes over into a lighter one, with impulses chiefly from France but also from Italy. A grand imposing design and excellent proportions are traits distinctive of the edifices, the details of which, however, sometimes are studied somewhat negligently. The foremost architects of the time are Jean de la Vallee (1620-96) and Nikodemus Tessin, sen. (1651-81). The former has, amongst other things, completed the House of Nobles, the most representative building of the time, and erected the present town hall and other palaces of the capital. The latter in his works, amongst which should be mentioned the palaces of Axel Oxenstierna, that of the Bank of Sweden besides other edifices in Stockholm, the main part of the royal palace at Drottningholm, the palace of Borgholm in Oland, the cathedral of Kalmar, proves a versatile, talented artist, understanding how to express architecture—now a magnificent or seriously monumental character, now an idyllic, lovely one. Nikodemus Tessin, jun., was a co-operator in many of his father's later works, and in this way rise was given to the last era of the Swedish Baroque. It is contemporary with the European Rococo, but shows a somewhat deviating character, and might be termed the Tessinian or the royal palace-building period.

TESSERÆ.

The Use of Caryatides.

INIGO JONES'S idea for a circular court with a caryatic order in his designs for Whitehall Palace certainly does not offer the happiest adaptation and combination of which they are susceptible. Human figures, the height of an entire storey of a building, are themselves rather too preposterous, at the same time that they tend, by the comparison they force, to render the other features petty and trivial. In Egyptian architecture indeed colossal statues and anthropostyle pillars of most extraordinary dimensions are not unfrequent, yet such a scale is not suited to either Grecian or modern architecture. When caryatides are employed they should always be considerably less than the columns, neither can they be substituted indiscriminately for the latter. An anthropostylar portico could hardly be made to produce a pleasing effect. The small caryatic structure forming a part of the Triple Temple at Athens, and which has been imitated in the lateral vestibules at the eastern extremity of St. Pancras Church, is rather a species of *pseudoporticus* than what is generally understood by the term portico in its usual modern acceptation, and therefore cannot be quoted as an anthropostyle example of one. Caryatides do not look well standing upon a floor, and if in order to correct this, and also to give them greater elevation without enlarging their dimensions, they are placed upon separate pedestals, the effect, so far from being improved, is rendered still more objectionable. Such figures always require to be placed upon a continuous stylobate. They are admirably adapted for interior decoration, particularly where an ornamental tribune or gallery, or some aperture of the kind, is required in the upper part of a wall. On the top of a screen wall, again, about double their own height, in vestibules, &c., they may be introduced so as to combine a high degree of scenic effect with no small share of convenience. In external composition likewise a screen of this kind behind a range of columns would be neither without beauty nor without novelty to recommend it.

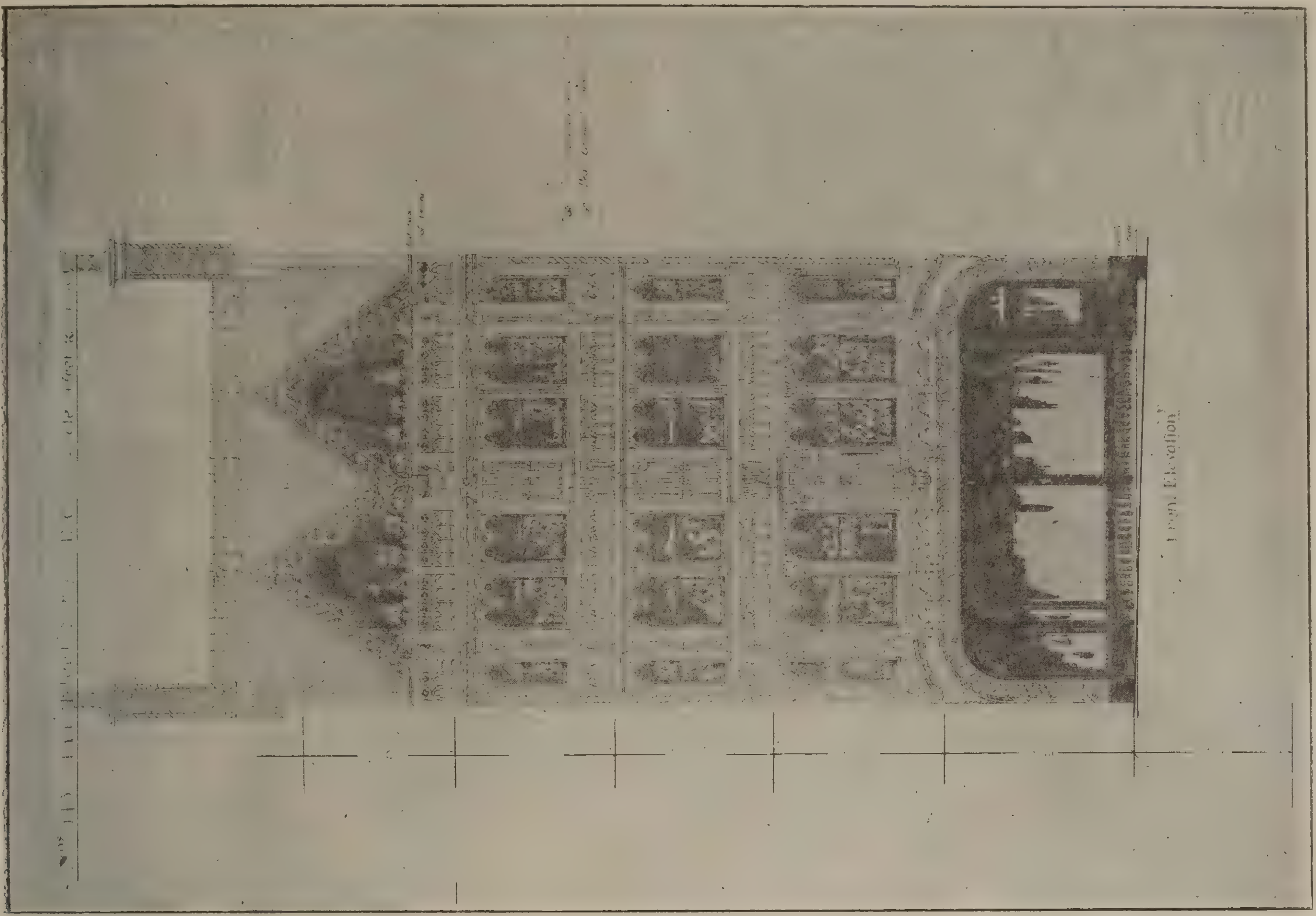
E. Rooker, Architectural Engraver.

To his architectural subjects Rooker gave a richness and freedom which have never been surpassed. His "Interior of St. Paul's Cathedral, ornamented as intended by Sir Christopher Wren," and "Blackfriars Bridge when Building" are in high and deserved reputation; to these may be added his "Oxford Almanacks," several etchings after the paintings of Wilson, and also those for a work published by Robert Adam in 1764, "The Remains of the Palace of Dioclesia at Spalato;" this publication is enriched also by the etchings of Bartolozzi, Santini and Zucchi. But perhaps the finest examples of Rooker's style are those prints (etched in conjunction with P. Sandby) after the designs of J. Collins—subjects from Tasso's Jerusalem. These plates are in the boldest and freest style, not excepting the works of Piazzetta, whose manner, or rather force, they appear to imitate, yet possess more variety in the display of foliage, trunks of trees and other materials of landscape scenery. Edward Rooker was not only distinguished for his abilities as an engraver, but was also the best harlequin of his time. He left a son, Michael Angelo Rooker, who became a clever artist, and was elected member of the Royal Academy. He was also an excellent draughtsman, engraver and scene-painter.

Monumental Effigies.

Among the various antiquities which England possesses there are none so immediately illustrative of our history as these national monuments which abound in our cathedrals and churches. Many an exquisite specimen reposes in lonely unfrequented village churches, their beauty hidden by coats of whitewash, and their safety dependent on their utter worthlessness in the eyes of those whose duty it should be to guard them against destruction. Instances are on record where the stone effigies have been wantonly broken up to mend roads, and the brasses sold by dishonest sextons for their value as old metal. The value of these ancient records cannot be too imperatively dwelt on. They are historic data, they are mementoes of the arts of the Middle Ages, they are the form and semblance of our great forefathers fashioned by contemporary hands and bequeathed to us as the last memorial of their mortal state. All who injure them commit not only sacrilege to the church, they dishonour the dead and act contemptuously to the persons and memory, as far as in them lies, to the ancestry by whose wisdom and valour the progressive improvement of our country has been obtained and the wholesome laws and free movements we enjoy battled for and won. The language cannot be too strong that should be used to impress their value on the minds of those who have them in their keeping. May the hands they uplift in prayer speak to man as they appeal to Heaven, and hinder the wantonness of ignorant destruction, that posterity may have the privilege we have ourselves of gazing on the figures of the good and great preserved by the same pious feeling in which the old poet, Spenser, apostrophises them as "Old monuments, which of so famous sprites, the honour, yet in ashes, do maintain."

The Cowdenbeath Municipal Buildings, which have been erected from the designs of Mr. T. Hyslop Ure, architect, Dunfermline, were opened on Friday last.


Front Elevation
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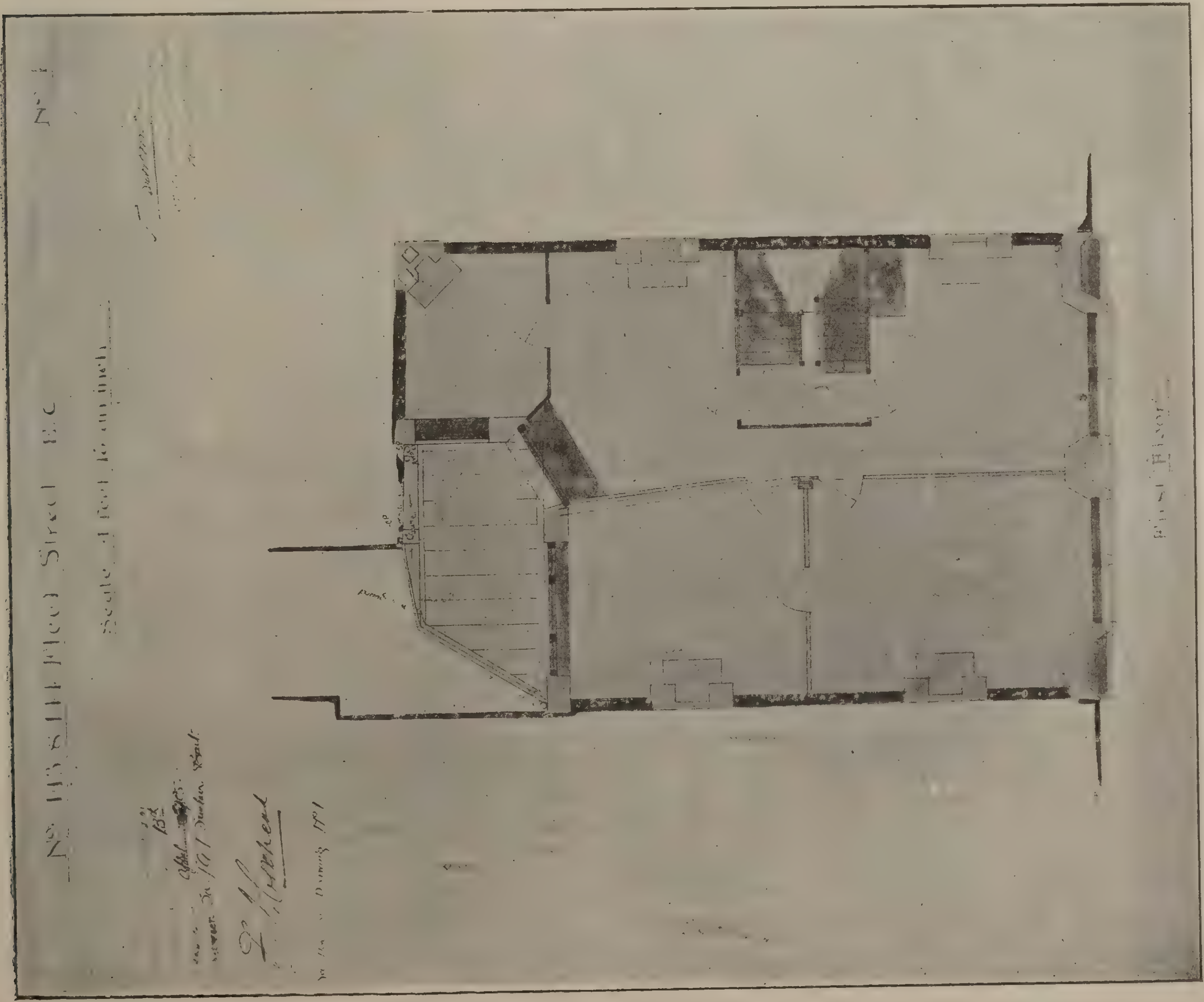
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Scale 4 feet to an inch
First Floor
No 1

NOTES AND COMMENTS.

With a contract amounting to 52,805*l.* 12*s.* 5*d.* the sum of 678*l.* does not appear an excessive claim for extras. Expressed briefly, that was the point at issue in an action which was tried a few days ago in Dublin and in which no less than six King's Counsel were employed. The action was tried before Mr. Justice Wright with Mr. Albert Murray, architect, as assessor. It was brought by Messrs. Hill Bros., builders, Cork, against the County Councils of Galway and Roscommon, being the joint governing body of the Ballinasloe lunatic asylum. They sought to recover the sum of 4,905*l.* 12*s.* 2*d.*, balance on foot of a contract for erecting the buildings. The defendants lodged in Court a sum of 4,110*l.*, and as regards the balance alleged that it was for extras for which no order had been given, and that the prices charged were too high. The defendants also counterclaimed for 100*l.* as regards defective material and 1,420*l.* penalties for delay in the execution of the work. They also lodged 117*l.*, being one-half the amount of the surveyor's charges. It will be seen that the difference amounted, as we have said, to 678*l.* Mr. Justice Wright found for the plaintiffs. Although a stay of execution until May 15 was granted, plaintiffs were allowed to draw out 4,000*l.* from the sum deposited in Court.

The Rue de Sèvres in Paris still continues to be a favourite site for hospitals, and at one time it appeared to be devoted to them and to convents. One of the latter was known as the Abbaye-aux-Bois. It was an old establishment, for on the site was erected in 1202 the original abbey. In 1650 the inmates fled from Paris during one of the civil wars, and the buildings were subjected to many vicissitudes. At the time of the Revolution in 1790 the convent was suppressed. When order was restored the buildings were occupied partly by nuns and partly by secular inmates. One of the inmates was Madame Récamier, and her salon was, between 1814 and 1849, the literary centre to which the principal French writers gravitated. For some years the lion was Chateaubriand, who there lay down the laws of the belles-lettres. A few days ago the whole of the convent buildings were sold with the grounds adjoining them, and before long buildings in many storeys will be erected there. The society that takes an interest in old Paris is having drawings and photographs made of all the parts which exist, and especially the rooms occupied by Madame Récamier. They will be added to the other records belonging to the city of Paris.

The Commissioners of Works have issued observations on some of the Bills now before Parliament seeking powers for the generation and supply of electrical energy. They are apprehensive that the products of combustion may be injurious to the parks. They are also not free from doubt whether the national treasures in museums and picture galleries are not also exposed to danger from the same cause. There is not merely black smoke or sooty or tarry matters to be considered, but other products of combustion which are deleterious not only to vegetation, but to pictures, marbles, metals and other objects in museums. One of the generating stations is close to the building which contains the Wallace collection. It is stated that smoke with its sooty and tarry particles can be so well consumed by proper apparatus that no danger ought to arise in that respect. Effectual means should be taken to secure that apparatus of the most approved character shall be employed for the consumption of smoke. The use of dust-destructor refuse as fuel should be altogether prohibited. But the principal enemy to be combated is sulphuric acid, the production of which can be much diminished, if not entirely prevented, by pouring lime-water on the coal before it goes into the furnaces; and the Commissioners think that this condition, the fulfilment of which would involve small expense and not much labour, might reasonably be insisted upon.

One of the largest and most interesting of the South Kensington Handbooks is the second volume of Dr. S. W. Bushell's "Chinese Art." It relates to pottery and porcelain, glass, enamels, jewellery, textiles and pictorial art. There are over one hundred page illustrations from objects in the Victoria and Albert Museum, besides several on a smaller scale. Although taste differs from time to time, and there may not be such a wide admiration for Chinese work as in other periods, it still has steadfast appreciators, who value the products by the theories of art which guided the native craftsmen. The first plate represents a square brick dating from B.C. 206 to A.D. 8. The mythological figures resemble the beings which used to be shown as living in London water, and suggest the power which terror exercised over artists and patrons. One delightful division relates to pictorial art which was practised prior to the beginning of our era. The earliest example shown in the pages dates, however, from the fourth century A.D., and is in the British Museum. The most attractive, perhaps, are the landscapes, some of which recall the perspective adopted in the composition of the ever-popular "willow pattern" plate. The Board of Education are rendering a service to amateurs in producing so valuable a treatise at an almost nominal price.

ILLUSTRATIONS.

MASONIC INSTITUTION FOR BOYS, BUSHEY, HERTS: ASSEMBLY HALL.

MANSIONS AND FLATS, CLEVELAND ROW, CLEVELAND SQUARE, ST. JAMES'S, S.W.

The accompanying illustration shows a perspective view of the above buildings which are in course of erection on a site facing St. James's Palace and Bridgewater House. The block has been designed for three town houses which front Cleveland Row, and suites of residential chambers having an aspect to Cleveland Square and the Green Park. The London Fencing Club, whose premises formerly occupied this corner of the site, have new accommodation on the fourth and fifth floors. The elevations have been governed by the main horizontal lines of the neighbouring property. The windows are grouped symmetrically and enriched with iron balconettes. The whole building is surmounted by a modillion and dentil cornice, the former being coupled to bring the whole in scale with the cornices of the adjoining buildings. The general contractor for the work is Mr. J. Carmichael, and it is being executed from the designs and under the superintendence of Mr. Frank T. Verity, F.R.I.B.A., 7 Sackville Street, London, W.

DESIGN FOR BANKING PREMISES AND CHAMBERS, CORNER OF PICCADILLY AND ST. JAMES'S STREET.

In consequence of the widening of Piccadilly the old premises have been pulled down, and we illustrate a proposed treatment of this valuable corner block, which, even after its curtailment by some 1,200 square feet, costing the authorities about 42,000*l.* to acquire, occupies an area of between 5,000 and 6,000 square feet, and is estimated to be worth a ground rent of 6,000*l.* per annum. The building we illustrate shows the site developed for banking, insurance and business premises on the lower floors, with suites of flats above, and the designs were prepared on behalf of the Norwich Union Life Insurance Society, who are the freeholders, by Messrs. Ernest Rüntz & Ford, of 10 Walbrook, E.C.

NEW BUILDING OF THE EDINBURGH LIFE ASSURANCE COMPANY, 122-128 ST. VINCENT STREET, GLASGOW.—PUBLIC OFFICE—ENTRANCE HALL.

THE ARCHITECTURAL ASSOCIATION.

THE concluding meeting for the present session of this Association was held on Friday evening last at Tufton Street, Westminster, Mr. E. Guy Dawber, president, in the chair.

Messrs. H. S. Watling, E. J. Tanner and A. R. Ashby were elected members.

House List, 1906-7.

The scrutineers in their report of the election of officers stated that 409 voting papers were received, a decrease of seventy on the figures of last year. The result was as follows:—President: Mr. R. S. Balfour; Vice-presidents: Messrs. Walter Cave and A. Needham Wilson; Council: Messrs. E. Guy Dawber, Arnold Mitchell, Louis Ambler, J. B. Fulton, A. Maryon Watson, J. Murray, W. Curtis Green, A. Keen and E. W. M. Wonnacott; Hon. Treasurer: Mr. H. T. Hare; Hon. Secretaries: Messrs. H. Tanner, jun., and C. Wontner Smith.

Editor of A.A. Journal: Mr. Maurice E. Webb.

Hon. Librarian: Mr. E. Gunn.

Hon. Assistant Librarians: Messrs. H. J. Worrow and Percy May.

The President said at the end of the session there must always be some gaps in their ranks, but there was one resigning office whom they would miss very much, he referred to their hon. treasurer. Mr. Francis Hooper had undertaken those duties for the last five years, and the amount of time and care and personal zeal he had devoted to the welfare of the Association could not be overestimated. They would remember, too, that Mr. Hooper had been treasurer during the arduous time commencing with the transfer to new premises and the collecting of money fo the building fund. The President moved a hearty vote of thanks to the retiring treasurer, which was passed with loud acclamation.

A vote of thanks was also accorded the School of Design visitors for the valuable assistance they had given to students in their work.

Mr. Walter Cave read the following paper, illustrated by lantern views, entitled—

Fenestration.

Fenestration—or the disposition of window-openings in relation to the structure—is a subject which is inseparably connected with the whole history of architecture, and the manner in which light was introduced into buildings has always been one of the most important elements in determining their style.

The influence of climate, the necessity for protection, the manufacture of glass and the relative positions of buildings have all affected the size and shape of windows; and in the following paper it is proposed to deal with the subject in some sort of chronological order, which will enable the development of fenestration to be more easily followed, and to show how these various influences in different countries have left their mark on the architecture of the time.

In all the great buildings of past ages, which consist of halls arranged side by side, the method of admitting light was constructionally the same. We find in the vast temples of Egypt the same arrangement of clerestory which the Gothic builders brought to such a pitch of perfection. The central hall or nave was taken up higher than the side halls or aisles, and this plan in itself was a determining factor in the design. In the great temple at Karnac, which may be taken as typical of the early hypostyle buildings in Egypt, we find a clerestory which was never glazed; and in the temple at Kalabsche, built during the Roman occupation, we find the same system employed to light four successive chambers, one behind the other, each, of course, having the ceiling at a lower level. The introduction of light generally throughout a building was not considered a necessity—partly due perhaps to the mysterious rites of the Egyptian religion, and partly perhaps due to the wonderfully brilliant skies of the East, which not only gave the smallest openings their utmost value, but made a cool and dim interior of infinite value in the desert. In later times there is evidence that the domestic buildings had openings in the front walls over low screens, and in the Temples of Edfu and Dendera the same arrangement can still be seen. But this method of admission of light must not be treated at length in a paper dealing with fenestration, except as an instance of the simplest method, for in reality these openings were only the omission of the wall-screens, either between the columns and the lintels of the clerestory or between the columns in the façade, and to pursue this part of the subject would partake too much of an archæological discussion.

When we consider Grecian architecture and the method in which the interiors of those wonderful temples were lit, we are faced with a greater difficulty and more uncertainty. In the Erechtheum and the great temple at Agrigentum, in Sicily (420 and 480 B.C.), we have, according to the accepted restorations, windows in the side walls, but these are both exceptional instances, and even here the problem of how the central part was lit remains a matter of conjecture. In the Erechtheum the three windows which appear to have existed are so placed that they seem to have been almost an afterthought. The windows themselves are square-headed, rectangular openings, about two squares in height, tapering towards the top and placed somewhat uncomfortably as regards their heads, which come at some distance below the caps of the columns; they were probably fitted with pierced marble screens. In the temple at Agrigentum the windows appear to have been somewhat narrower in proportion, and the heads so arranged that they more nearly line with the caps, and seem to become a part of the original design, but have a very crowded effect. Both these examples, as has been stated above, are exceptional and may be taken as proving the rule that the Greeks did not consider that openings in the screen-walls were the best form of lighting their temples.

All Greek architecture came, we know, from the South, the land of brilliant sunshine, where windows, as we understand them, were either unknown or of quite subsidiary importance. They were very few in number in all Classical work, and never placed to form more than one tier. We can thus, I think, draw the conclusion that windows such as we require are never really successful in columnar architecture. The Greeks felt this and never developed the scheme, and the modern attempts to combine fenestrated with columnar architecture show the impossibility of making a happy compromise between two totally conflicting styles. Take the instance of the Royal Institution in Albemarle Street, where we find a single Corinthian order the full height of the façade, in itself well proportioned, but its general effect marred by the introduction of windows, which look rather mean and squeezed in between the columns, and spoiling the effect of the connecting screen-walls. If the columns are detached and in their proper proportion, either the windows are darkened and become too small or the general effect of the façade is weakened by bad intercolumniation if the windows are designed to give their full lighting value to the interior.

That the Greeks had a method for lighting their temples is generally accepted by all archæologists, and it seems evident that if it was not from the side walls it was from some form of roof or clerestory window. There is, however, one other theory which has a literary foundation. In the tragedy of Iphigenia in Tauris, it is actually stated that the intervals between the triglyphs in a certain temple were left open and were to be utilised as a means for thieves to enter. This is a possible solution, but the evidence of words is apt to be misleading in such a case, and it is more probable that some form of clerestory adapted to a sloping roof, as suggested by Mr. Fergusson in his "History of Architecture," was the real method of lighting these interiors, and in support of this we have the evidence of the Egyptian temples. St. Peter's, Eaton Square, is an attempt, and a successful one, to light a church in this method. But, again, the subject becomes of more archæological than architectural interest, and it is not till we come to the great buildings of the time of the Roman Empire that the admission of light came to be considered as the integral part of the design.

It is thus apparent, and the following remarks will make it more evident, that fenestration became more important as the art of building advanced westward and northward until it reached its most interesting development in our own country, where the necessity for light is of such great importance. The great eye of the Pantheon is a good starting-point for a more detailed consideration of the subject. In this very remarkable building we have an interior completely and perfectly lit by one central opening in the dome 27 feet in diameter. The total cubical contents of the Pantheon represent nearly 2,000,000 cubic feet (1,934,600), which gives the extraordinary result that each square foot of skylight lights 3,380 cubic feet of space. This instance has been quoted to show the enormous value of a vertical light, which, according to generally accepted rules, can be taken as about thirty times as valuable as an horizontal one. The arch and dome construction of the Romans gave an opportunity for windows, which were introduced high up beneath the vaulting and above the four barrel arches supporting the dome; these were usually great semicircular openings, and divided by massive mullions into three divisions, finished, according to Viollet-le-Duc, one with frames of bronze enclosing panes of glass, alabaster, or simply latticework. This, it seems probable to suppose, was the usual way of lighting the great central courts of the Roman buildings, and from their plans we know that the various rooms ranged round this court must have been lit only by borrowed lights from the central court itself.

We now come to a very important consideration in fenestration, and that is glass. During the Early Eastern work, briefly referred to above, both in Egypt and Greece, there is nothing to lead us to suppose that glass was used in windows. The openings in the Greek temples were almost certainly unglazed or fitted with marble screens, and the position of these, either in the frieze or as concealed dormers, would not make it an absolute necessity. That glass was in use for domestic utensils at a very early date is undoubted, but it is not until the beginning of the Christian era that we have a definite reference to its use in windows. Pliny, who died in 113 A.D., describes, in his "Laurentine Winter Villa," a glass door and curtain, and we may assume that, at least in some cases, glass was used in screens to light the smaller rooms round the great courts of the Roman buildings. It is interesting to note that the great group of the Laocoon was found in one of these inner chambers with no external opening.

Thin slabs of alabaster were, no doubt, used in some instances, similar to those still to be seen at Orvieto Cathedral, and pierced marble screens, like those from the Taj Mahal (built by Italian workmen in 1630), India; and plates of glass, 7 inches by 9 inches, cast in marble frames, are still to be seen at Sta Sophia, at Constantinople, which probably date from the building of the church by Justinian, A.D. 540. Bede mentions that in 680 A.D. Abbot Biscopus sent to Gaul "manufacturers of glass for windows," which shows that the habit of glazing windows was by no means common in the west of Europe at that time. Even in England during the twelfth century glass was not in common use, for there are instances of church windows which were closed by shutters of wood or stone, which were unglazed.

But to return to the Roman buildings; it is of importance to note that great regard as to aspect was observed. In the Baths of Caracalla—a typical building—the lights beneath the domes opened towards the most favourable points of the compass. Vitruvius, in discussing this subject of orientation, says that "due regard should be had to climate (*i.e.* latitude), for the same arrangement will not suit in Egypt and Spain, and it must be different in Pontus and in Rome. In northern countries the buildings should be vaulted, well closed in, and their openings small, facing a warm aspect. On the other hand, in southern countries, subject to the burning heat of the sun, the openings should be large and face the north and north-east." In Cicero's letter to Atticus we have a very interesting passage, where he quotes his architect's reasons (which seem to be somewhat modern):—"Know that in blaming my windows as too narrow you are finding fault with my architect, Cyrus—happily it is only with the architect. When I was saying the very same thing to him he pointed out to me that wide windows looking into a garden did not offer a prospect so agreeable to the sight. For let A be the eye of the spectator, B and C the object he sees, D and E the rays proceeding from the eye to the object—you understand what follows." This unfinished demonstration, of which no diagram has come down to us, is not particularly convincing, but may be taken as an instance of mystifying the client, which is not entirely confined to the time of the Roman Empire. He further adds, "If you find anything to criticise in other parts, I shall always be prepared with a tolerable justification, unless I can make a change for the better at à smaller cost."

The true Roman architecture was based on the use of the Greek lintel construction combined with the Etruscan arch, and without going into the details of the origin of the latter it is sufficient for our purpose to note that this combination gave an opportunity of lighting buildings from the side walls. The intercolumniation of the Greeks, as has been pointed out, precluded a satisfactory form of fenestration, but with the pillars placed at a distance from one another equal to their own height, the intervening screen-wall was well adapted, if not obviously intended for window openings. In later times by superimposing one order above another, giving a series of storeys, the opportunity for systematic fenestration was attained, and the windows thus became an integral part of the design. This plan ultimately led to the very elaborate wall arcading which is seen in so many buildings from 500 to 1200 A.D., but its use as a means of systematic fenestration was rare, and, as a rule, was a mere necessity of construction. In many of the Early Romanesque buildings in Italy we find a curious arrangement of windows. For instance, in the great basilica of St. Apollinare in Classe, at Ravenna, begun in 538 A.D., the window openings are very small and made quite subordinate to the wall arcading on the exterior, but from the inside the spacing of the windows is most thoughtfully carried out, as in the case of the sister church of St. Apollinare Nuovo. This system of designing the window openings from the inside with little regard to exterior is typical of a people who were developing a style of architecture suited to their western requirements based on the eastern tradition, and it is highly probable that the Early Christian antagonism to all the heathen practices may have led them to ignore their exteriors, on which the Greeks spent so much thought and labour.

In the Byzantine style the same remarks, to a certain extent, hold good, but it is now proposed to leave the eastern architecture and follow the progress of fenestration westward, and see how the Gothic builders treated their windows. It would take too long to enter into a comparative detailed account of the various national styles in Europe, and we will at once proceed to the English Gothic buildings. The first thing to be noticed is the same arrangement of subordinating the windows to the external wall-decoration, as has been described at Ravenna. These windows in our Early Norman work were small, and their size was due to various causes; the desire for protection against enemies in those troubled times when churches (and especially their towers) were used as places of defence and refuge; the difficulty and expense of obtaining glass, resulting in their generally being unglazed, and only a shutter of stone or wood used to keep out the weather; and as has been before mentioned, the form of window itself came from the East, or the land of sunshine.

The treatment of the window openings in the early church towers is very effective. In most cases they were small, and arranged in groups high up, with a baluster-shaft dividing the lights; the main part of the tower was left plain, and great dignity is thus produced. With the advent of the pointed, or lancet windows of the thirteenth century, a real attempt was made to make a design in fenestration both from the inside and out. In the lofty square-ended fronts of the Cistercian buildings we find the windows ranged in deeply set arrays of varied arcading. But, as a rule, the Early Gothic windows in the arcades were subordinated to the general wall scheme, and at Crowland, Durham and Ely the Benedictine monks built tier upon tier of arcaded galleries, with occasional windows, which remind one of the Romanesque work at Pisa.

Towards the end of the thirteenth century came a most remarkable change in the window treatment of our great Gothic buildings, "which," as Mr. Prior says in his valuable work on "Gothic Art," "must be judged as no mere freak of a designing architect, but as a revolution worked by Gothic creativeness in some thirty years such as the centuries of Egyptian or Greek art did not accomplish."

Inventors are rarely theorists; the invention must be suited to the necessity before everything, and the theory may follow if anybody cares for it; for a theory is nothing but an attempted explanation, and the fact must exist before it can possibly need explaining.

The history of the development of tracery is so well known that I do not propose to dwell on it now. In its earliest and best stages it was always treated as a part of the whole design, and the masons used their stonework with a due regard for its constructive possibilities. The development of glass-painting in connection with window-tracery is a branch of this subject on which a whole paper might be written.

The lancet windows, especially those on such a grand scale as Chartres and Paris, measuring 6 feet or 8 feet across, made a magnificent field for the glass-painter such as he did not get again till the end of the fifteenth century, when homogeneous Gothic art was a thing of the past. The increasing richness of glass was for a long time only a part of the general scheme of enrichment, and the development of tracery was really due to the mason; but with the rise of individualism, which was one of the main causes of the decadence of Gothic, the extremely decorative character of this form of ornamentation called for wider fields for its display. At Selby the combination of tracery and glass reached such a pitch that the tracery practically becomes the *cloissons* of a great masoned enamel.

With the introduction of the transom to divide these great windows into tiers—each division fitted with niched saints—we seem to feel the desire to recall the great sculpture galleries and fronts of Wells, Lichfield and Exeter. Gradually the glass-painter exercised more and more influence over the mason, and thus we find at Gloucester and King's College Chapel, Cambridge, windows of such a size that the intervening wall spaces are only piers to carry the lofty stone vaults, and these windows, fitted with the magnificent glass of the period, reach the utmost limits of engineering skill in this direction. It is, perhaps, scarcely fair to notice here a modern parallel, but in studying these wonderful examples one cannot help thinking of the modern plate-glass windows of our streets, where the visible means of support are reduced to a minimum, and all the skill and knowledge of material we have at our disposal is utilised to obtain the greatest possible amount of glass space. There is, however, a lesson to be learnt from the two cases which may, for practical purposes, be taken as parallel.

With the Gothic builders the glass itself was set back at a considerable distance from the wall-face on the exterior, and though the mouldings themselves had become comparatively shallow with the growth of the Gothic style, still they were not ineffective, and served to give a certain amount of shadow. In too many instances the exact reverse is the case to-day, and if the great sheets of plate-glass in our modern shop-fronts were recessed their hopelessly bald effect would to a certain extent be minimised. It may be taken as a broad rule that the larger the window the more the glass should be recessed from the outer wall. With the decay of Gothic, which for purposes of classification may be taken as about 1500, a foreign influence began to make itself felt in England, and the interest in the national style, which had been mainly confined to the ecclesiastical structures, was transferred to the domestic buildings after the dissolution of the monasteries under Henry VIII.

Italian art was the first of the long series of outside influences which affected English architecture. The great Renaissance in art and letters may be said to have begun with the fall of Constantinople in 1453, which Mr. Gotch says "flooded Western Europe with Greek scholars and Greek literature. Italy was the centre of the new movement which eventually reached the distant shores of England, but as the stream flowed across Europe it became tinged with the peculiarities of the various lands over which it passed." But before the Classical traditions had really been thoroughly assimilated by the English builders there arose, under Queen Elizabeth, a marvellous growth of stately country houses, in which the followers of the fast perishing Gothic style made their last effort to accomplish something new. The great country houses of the sixteenth century, with their stone-mullioned windows in many divisions, fitted with well-proportioned leaded glazing, are to be found scattered up and down the length and breadth of the country. The wonderful ease with which this form of fenestration was adapted to the great façades of Kirby and Montacute, as well as to the modest gables of the Cotswold manors, took such a hold on the national mind that this style of window may be said never to have completely died out. The Gothic origin of these windows is obvious, and at Cowdray House, in Sussex, the growth is well exemplified. The necessity for a defensible house had by this time disappeared, and the reaction was, like all reactions, inclined to the opposite extreme; and we find, in cases like Astley Hall, Lancashire, and Little Moreton, a range of windows practically dividing the façade into alternate horizontal bands of glass and solid wall surface.

The development of the bay window is also one of the striking characteristics of these times, and they are to be found in all kinds of buildings. From the earliest date we see them almost invariably on the daïs of the great halls, and in later examples, as at Bradford-on-Avon, they become the most important feature in the whole composition. The proportions of these mullioned windows is worthy of careful consideration. The single transom was generally placed so that its lower line was nearly in the centre of the window. The proportion of glass to mullion was usually one of mullion to two and a half of glass. The glass-line took the centre of the mullion, and the face of the mullion, if not flush with the external wall, had only a small member beyond it. The mullions were about twice as deep as they were wide. Where more than one transom was used the divisions became less towards the top—with some curious exceptions, as at Kirby Hall. The proportion of the lead-glazing varied considerably. In the earlier type of houses, and in the smaller examples—as, for instance, in the Cotswold district—the windows were small, and the amount of plain wall surface thus produced made up a composition in fenestration which can hardly be equalled for its dignity and sense of repose. In many instances we find that the windows decreased in size and in the number of lights as they ascended the gable, and were kept a long way from the angles. This satisfies the eye—as a logical arrangement—for the mind easily follows the relative size and proportions of the rooms within, and it also gives that peculiar conviction that the house has an inside, much as we can distinctly feel by a glance at a face whether there is really a mind behind it.

As a contrast to the diminishing number of lights as seen in the gables of the Cotswold manors, it is of interest to notice the arrangement of the window openings in the towers of many of the Lombard churches. At the cathedral of Sienna we see the exact reverse of this treatment, and from the single light on the lowest stage of the tower we find an additional light added at every step till at the top there is a range of seven lights, the object probably being not only to produce an effect of lightness but actually to diminish the amount of masonry. Small windows, well placed, undoubtedly make for good architecture, and it is not always possible to convince those concerned that a room can be overlit; the modern building requirements (by-laws) seem especially framed to prevent good proportion, both on account of the placing of the windows in relation to the floor and ceiling and as to their size in proportion to the room itself. These regulations may be of use for ignorant builders in crowded towns, but are sadly hampering in the country districts.

But the Classical ideas which had, by the end of the sixteenth century, gained a firm foothold in the interior of the house, at last showed themselves both in the arrangement and details of the windows, and the outer member of the jamb developed into the architrave, though the mullion and transom held its ground. Woollaton Hall is typical of the transitional period, but the effect of the fenestration cannot be considered entirely satisfactory. It has all the defects of proportion and misuse of Classical detail inseparable from the attempt to combine an imperfectly-understood style with our own traditional methods. But if we consider what a revolution was taking place in all matters connected with art, we cannot fail to pay a tribute to the builders of these great country palaces, which are not only stately and picturesque but essentially English.

(*To be concluded.*)

TRUE ARCHITECTURE.*

It is entirely possible for an architect to go through any of the schools of architecture or to know never so well the chronological history of his art, to have stored his mind with great volumes of facts relating to form, colour, decoration, arrangement of details, to have had extensive practice in their imitative use, and yet not understand the underlying principles, the source of architecture. The isolated facts with which he has stored his memory, his theories, examples and the detailed imitative experiences which have come to him are a positive burden without the understanding of principle, without imagination and the constructive sense. They have dulled his vision and hampered the freedom of his movements. As a general proposition this applies alike to all branches of philosophy, science and the practical affairs of life. There must be memory as related to facts and precedents; there must be the training in imitation; but without imagination there can be no creation, and without creation and re-creation there is death.

It is desirable that we should eliminate the strong and deep lines which isolate and divide the arts and sciences into so many parts and classifications. There are certain basic principles, an underlying unity, which relate all our activities. There is a source, a fountain from which all may drink. There must be an artistic unity that there may be free creation.

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* From a paper by Mr. Louis H. Gibson, architect, read at a meeting of the John Herron Art Institute, Indianapolis, Ind., and published in the *American Architect*.

Creation is the recognition of something which already exists. Our creation is the result of imagination, perception. We bring nothing into the world. Everything exists for us. Nothing comes into the universe and nothing goes out of it. Everything is here. It is for us to realise. No physical force, no power, no energy is brought into or taken out of the world. It is. The manifestation of electricity in the sky is not the dissipation of force or power. The same force yet remains in the universe. The burning of fuel, the escape of steam takes no power or substance out of the world. There is a mere change in the objective form. The growing of wheat or corn or trees brings no more of physical substance into the universe. There is a mere change of substance, the uniting of forms and substances which make wheat and corn. Nothing comes into the universe and nothing goes out of it. The same is true of the soul force or of the soul stuff, as some one calls it. It is universal. It exists in its ideal completeness. It is for us to realise. It is for us to appropriate. The mere mental force of the world is pre-existent, complete and absolute. The soul stuff, the mental power, the spiritualised physical substance form the universe. In it we may measurably comprehend Divinity through ourselves. Nothing can be taken from it; nothing added to it. It is a constant, unchanging, free, absolute, omnipresent quality.

This force is available. The measure of our creative capacity is our willingness to think in terms of that which is in us, of us and for us. It is only limited by our capacity for freedom. The form which we give our thoughts, our imaginings, is the measure of our tangible, free realisation.

Beethoven brought no music into being. All the music that ever will be in the universe, now is. It has subjective existence. It is the soul fountain. It remains for us to realise it in actual existence, in objective form. Beethoven was an instrument of God. The sculptural representations of a MacMonnies, a St. Gaudens, a Rodin are mere realisations of divinity in form. The pen of Browning touched the fountain of the Infinite. The spirit of the great painter is the spirit of the Eternal One. The great builders of the thirteenth century were free children of the Creator. Each in his own way, in his own measure, expressed the infinite Divinity. His manner of realisation and expression was the indication, the formal definition of personal self-consciousness or consciousness of being.

There is a maximum and a minimum of realisation or identity with the Infinite. From the expressions of the tom-tom to the orchestrations of Wagner there is a great interval. In each there is self-consciousness. In each there is recognition of being. In each there is the touch of the Infinite. Each comes out of the great Universal. It is a part of it. Each is the highest personal expression of the period and the individual. There is the Wagner of the tom-tom and the Wagner of the great artistic unity of Bayreuth. Each realised as far, as extensively as an habitual state of mind allowed. Each rendered further progress and more complete realisation possible. Creation is the giving form to realisation.

Creation is a process of relating, combining pre-existent qualities, forces, facts and substances of the universe in a manner to serve the manifold ethical, æsthetic and utilitarian development of man. Human advancement is human realisation, and realisation is what we call creation. Through our process of realising and combining we bring into being. We make nothing; we do not develop by making something out of nothing. We create by appropriation, by appreciation, by idealising, by seeing, knowing and perceiving that which is of us. There is no creation in the sense of absolute newness.

The distinction which we imply in the use of the terms æsthetic, ethical, utilitarian, is disturbing. They should imply a unity. The æsthetic is utilitarian, the utilitarian æsthetic, and the æsthetic is ethical, and so on. They form a complete unity. Our being admits of no distinction in these qualities, which we define and consider separately and with so much precision.

Few of us realise our capacity as creators through the faculty of appreciation. We appreciate to-day that which meant nothing to us yesterday. To us this appreciation is creation. The musician brings something to us, and in so far as we appreciate we ourselves are musicians and create for ourselves, increase our capacity, enlarge our horizon, draw from the eternal fountain, appreciate. The painter places before us a picture. Our realisation of its meaning, our understanding, our appreciation, expresses artistic consciousness. We are literary artists, we are creators as measured by our understanding of that which comes to us through literature. Appreciation is one great source of creation.

Of all the arts the art of architecture is the least alive. It rests almost wholly upon the traditions of the past. It is the only art where respect for precedent implies bondage. We have music to-day than which the world knows none better. We have literature which is in no way controlled by the past, by memory. We have great paintings not yet dry upon the easel. Sculpture is modern and expressive of present day emotions. It is not imitative. The architecture of the Greeks expressed the sentiment and culture of their civilisation; that of the Romans was expressive of Roman character. It stood for organisation, formula, authority, academic methods, control. The Mediæval architecture was expressive of religion and the sentiment of the Infinite. The period of the Renaissance—the fifteenth and sixteenth centuries—was identical with the spirit of research and the retrospective view. The sentiment and culture of the Greek, the religion of the Mediæval time and the spirit of research of the Renaissance were idealised and materialised in a great way in architecture. The spirit of the present is not expressed in our architecture. We clothe our thoughts in the tattered, objective garments of the Greek, the Roman, the Mediæval, the Renaissance period. Our present-day architecture has no subjective thought which manifests present-day spirit or life.

The art of the builder was never so exalted as during the thirteenth century. The craftsman and the artist never joined hands more seriously or joyously. Never in history did they express themselves in greater enthusiasm. There was a great and compelling reason for this sympathetic and loving relation. The artist and the builder were serving a people united in a declaration of spiritual and intellectual independence. They were taking part in a great racial expression, and their monuments were commemorative of individual freedom and an illumination of the soul which delivered them from the Dark Ages. They were idealising, expressing in material form their enthusiasm, their gratitude and hopes of a new democracy. The thirteenth-century architecture was the flower bursting from the bud of 800 years of repression.

As we look into the history of architecture we are astonished by one great fact. The greatest art was developed absolutely without precedent. Greek and Mediæval art were born full strength into the world. This is as relatively true of Roman as it was of Renaissance architecture. Each period had its own origin, and each created its own bondage. The Mediæval art was a proclamation of spiritual freedom. It died from spiritual and intellectual bondage. The Renaissance was a symbolic expression of secular freedom and intellectual research. The Renaissance created its bondage by the exaltation of precedent. The period of the birth of these arts is the period from which to date their decline. Greek architecture was the greatest in the fifth century before Christ, the Mediæval early in the thirteenth, the Italian Renaissance in the fifteenth, and that of France in the sixteenth. Everything that has been done since by the architects has been relatively inferior. It remains for the architect of to-day to clothe the new, virile thought of our time with the objective architectural garments of the past.

In a country so small as France the architecture of the thirteenth century preserved the same initial principles throughout its territory, and yet presented the individual character of the various provinces. When at the end of the century the architectural expression amalgamated, when it lost its personal quality, it lost its fineness of expression, its exquisite choice of form and detail. When it lost its personality, it necessarily lost its real art, its character.

Conscientious and honest employment of material distinguish the construction of the thirteenth century. It charmed the cultured world and the uncultured. Nothing less than false education will cause one to lose respect for a true, natural law. Again, there is no human work which does not contain within itself the germ, the principles of its own dissolution. Merits, if exaggerated never so slightly, soon become defects. The art of the thirteenth century was the art of individuality. There came a time when reason replaced imagination, logic dispelled poetry, science encroached upon fancy, and calculation displaced inspiration. It is then that the dreamer is displaced. It is then that the art of the builder, the builder God within us, is dead.

The spirit of true architecture of the Mediæval period went out at the end of the thirteenth century. During the early part of that century there was individual freedom and therefore national expression. Through individual freedom is found the highest expression of national genius.

Only in the architectural art do we feign the expressions of the past. In discussing literature we do not ask the period of the author's work nor consider his fidelity to an earlier style. Think of Kipling relating himself to the Elizabethan period. We should not know him if he did. It has remained for the modern painter to discover colour. They have their masters in name only. The sculptor is free, yet respectful of tradition. Wagner revered Beethoven, yet proclaimed his own message. As said before, architecture is the only art where respect for tradition or a school implies bondage.

Think of the relation of architecture in the lives and history of a people. The architecture of Egypt is Egyptian; the architecture of Greece is an expression of the intellect of that time; that of the Romans was governmental, formal, academic, aggressive, dominant. The Mediæval architecture was the first democratic art. The architecture of the Renaissance was the spirit of that time.

The spirit of domesticity is a dominant force of our time. Never before in the history of the world was it so strong and individual. The love of home is a sentiment high enough and strong enough to form a nucleus of great art. Emotions which originate in family attachments and home life are serious enough and delicate enough to be the germ of an architecture as fine and as expressive as that of the Greeks, and as beautiful and joyous and picturesque as that of the thirteenth century.

Great architecture has always been the expression of high sentiment. Greek architecture was the expression of an advanced intellectual condition. Gothic architecture was developed from great religious emotions and the exaltation of the realisation of intellectual freedom. True architecture must come from a strong impulse. Our opportunity is the idealisation and the materialisation of the spirit of home life. Architecture may spring from the family and express all that is beautiful and tender and noble in family love. This cannot be done in temples or castles or great cathedrals, because the sentiment which develops these is wanting. The spirit that built the cathedral is now in the home. Architecture may be an expression, material in form, of the family sentiments. It will relate to the love of men and women and children and youth and old age.

How does one build to express a sentiment? How does he represent veneration for family life? How does he express in wood and brick and mortar the love of men and women? These questions are direct enough and practical enough. In all history there is no sentiment so high that it has not been given adequate material expression. Every building must exist in thought, in hope and ambition before it can exist in substance. All the beautiful sentiment of the home has been and may be expressed in infinite variety, in beauty of form, harmony of colour, picturesqueness of outline, delicacy of detail, in proportion and mass, through enduring material and honest handicraft. The most godlike of human emotions have found, and may find, physical expression through the medium of material, form and colour.

There is a great opportunity in building a house which is to serve as a home for expressing artistic unity. To begin with, there are the general sentiments which we all so well understand and which we so inadequately express. Within the expressive house there may be music and painting, sculpture if you please, literature and the appreciative spirit which makes us a part of them. The ideal home can be better expressed by an example than a definition. One who is interested in domesticity and home-life and home-building can find nothing more charming and satisfactory than the history of Sir Walter Scott's homes and home life. Everything around him partook of his own sweetness of character, and at the same time was rendered picturesque by those qualities of mind which belonged so much to him. There was the element of romance in everything that he touched. Abbotsford was a narrative, and in it and through it ran the poetry of his nature. But his home-building character had an earlier demonstration than in that completed structure. Abbotsford was its culmination. One of his homes was an old border tower, and in its little sitting-room he wrote with children, wife, servants and dogs around him, sitting in the little bow-window which looked out on the Tweed. The first house at Abbotsford was a simple cottage. The ground around it was bare of trees, but it was immediately set with slips and planted with seeds sent by his friends from all quarters of the globe. With the success of his novels Scott changed his plans many times. The building moved along with his resources, but the home spirit was never lost during its transition from a cottage to a castle.

One can see in Abbotsford the same idea which brought forth his poems and novels. Antiquarian research formed the basis of both. An old legend, a queer or interesting character, combined with ideas of his own, in his inimitable way, formed the poem or novel. A block of stone from the door of Tolbooth Prison, bits of carving from Melrose Abbey, carved wood from Dunfermline kirk, mosaic pavements from Italy, built together with new stone, placed in the form suggested by Scott's imagination and historical research, formed a building picturesque and romantic as the "Lady of the Lake." One cannot but feel that Abbotsford was to him more real than his literary work. It combined the legends of his country and the romantic, imaginative qualities of his own mind in material form.

When we look at an architectural production like Abbotsford Castle, the most natural question to ask is, What style of architecture is it? In truth, Scott's castle is as varied in its style as the legends with which he stored his brain. It is a kind of architectural romance, altogether picturesque and varied. There are in it suggestions of the heavy Norman architecture of the twelfth and thirteenth centuries, and alongside this, and at times a part of it, we have Elizabethan details and suggestions of the Perpendicular style, and again choice bits of the Early English, all arranged in a most picturesque and pleasing way. Thus we have an architectural romance constructed exactly in the same manner as his literary productions.

The buildings of the Old Colonial period were the truest architectural expressions that America has known. The medium was a Renaissance departure; yet material, colour, form were idealised and inspirited to express Old Colonial life. It was careful, thorough, academic house-building. The old New England dwelling or meeting-house and New England history and character are part of the same expression. We know the early New England people as thoughtful, refined in a way, very severe and exact. We find the architecture of that period expressing as clearly as possible all these qualities. There is no suggestion of the picturesque either in the personality or the architecture. There is no mere prettiness. It is truthful, severe and refined. It carries with it a certain reserved, dignified, quiet beauty and nobility which comes from seriousness and concentration. We architects undertake to build Old Colonial houses to-day. We memorise Old Colonial details and imitate the forms. We do not supply the character—the Old Colonial character. No more do we produce the architecture. A musician does not produce a sonata by memorising and imitating the work of a Beethoven. There must first be the spirit of a Beethoven. Architecture is not creative; it is created. Architecture as an art cannot exist for its own sake. We must be artists in thought before we can be artists in manual performance. The manual expression is the end, not the beginning. We may have certain trained cells which see and represent the skin of things. But dominating all arts, except the art of music, is the art of thinking. When a thought takes outward form so as to be conceivable by the human mind, it is a word, a thing. The word is the symbol of creation. A word, a thought, is the verimost reality—the greatest essential in the universe. The thought, the word is the expression of the spirit. Painting, architecture, sculpture, literature are materialised ideals. The actual performance is only the expression of thought. One who touches the violin must have something to say—a thought, a something high. It is well to remember that the ability to draw and colour does not make the painter. There are greater draughtsmen and colourists in the world than Millet. But Millet had the thought. He knew the word. It is not necessary that we should have great manual dexterity in order to be artists. We may be great artists in our thinking. It is desirable that we should be able to manually write or even be able to spell in order to produce literature, but it is by no means necessary, though very convenient. We must have the imagination, the thought.

There was a time when Greek and Mediæval and Renaissance art was L'Art Nouveau. The perception of its beauty was the fatal moment. It then ceased to be an unconscious expression. Convulsive clinging to æsthetic effort means loss of real mastery. Our Art Nouveau carries with it a suggestion of failure. It is an exaggerated expression of self-consciousness. In that it clearly expresses a distorted self-consciousness, it is effective. In that the expression of this condition of mind is not desirable, such an expression is out of place. A thing out of place is never true art. The true new art will come without a convulsive birth—unconsciously, from the natural expression of present-day emotions and thought. New art is the expression of new thought; the now, and not the taking on of a new skin.

In detail, in colour, as expressed in ornament, L'Art Nouveau is often very beautiful. The beauty is hectic. It covers a badly organised structure. The engineering is generally bad and the forms and compositions forced.

The present-day craftsman's work has the merit of presenting a free opportunity to study form, composition and craftsmanship without the consideration of ornament. At this time, when we are so lacking in reserve, this is a desirable opportunity for restraint. Some day we will unconciously combine the simple, rational qualities of the craftsman with the decorative sense of the new art and thus produce real art.

There is no doubt about our present-day architecture being frozen, but I will not allow that it is frozen music. Music is infinitely more free than the art of thinking. Music ignores ideas, and therefore is not dependent on the perceptible or what we choose to call the natural world. Music is the image of the will. It speaks of essentials and the other arts of shadows. The same identical will shows itself in ideas as well as in music, though in a totally different way. There must consequently be a parallelism, an analogy, though by no means an immediate likeness, between music and the other arts. Music is not represented by the body, but purely by the inner soul. It is the heart of things—the highest art. It represents the metaphysics of all that is physical in the world, the thing that lies beyond appearance.

A church is a place for a great gathering together, a great opportunity for the unified artistic expression of the real being, the "I am," of a body of people. Such an expression is inherently the highest form of art. In so far as it is true, it is great art. In a meeting-house there may be worship through literature, architecture, oratory, music, painting, sculpture and ceremonial in all its manifestations. It may be a unified art incarnate.

In everything which we do, our daily work, our art, our building, is a manifestation of some primal life, some central living power or central spiritual control, call it by what name we will. In a finite expression we manifest the infinite. All material things are only the outward expression of a spiritual reality and an essence which represents it to the senses, an outward, visible sign of inward spiritual emotion—man's expression of the eternal. Our work is an expression of soul—a revelation. Think of the responsibility. We do this with material which we find at hand, plus the infinite, plus thought.

REINFORCED CONCRETE.

The following statement, which was read at the first meeting of the Concrete Committee, consisting of representatives of the R.I.B.A., the District Surveyors' Association, the Institute of Builders, the Incorporated Association of Municipal and County Engineers, the War Office and distinguished scientists, gives an idea of the nature and scope of the investigations the committee has been formed to carry out:—

This committee has been nominated by the Royal Institute of British Architects to consider and report upon the use of reinforced concrete in buildings and other structures. As we all know, reinforced concrete is largely used in other countries—in America, France, Germany, Italy, Russia Egypt, &c.—and is now coming into use here, but very slowly.

The conservative nature of our people may be responsible for part of our reluctance to use reinforced concrete, but another reason why we lag behind is that no responsible or representative body of skilled men—no one man even whose name carries great weight—has pronounced in its favour. Also Building Acts and by-laws do not facilitate its adoption. The architect and engineer hesitate to use it until the material and what can be done with it has been generally agreed upon; until, in fact, they have some assurance that it may safely be employed.

Now, as the Royal Institute of British Architects has been the promoters of this committee, you may naturally look to its representatives for some general idea of the line of action to be taken. Exactly what may be done must be settled by the committee itself; and in submitting to you a general rough sketch idea of a programme, it must be understood that the sketch is necessarily only an introduction, and not in any way a finished scheme, for your guidance.

First, then, it appears that we should inquire into what has been done already, and ask the owner or architects or engineers of such work for particulars, and how the buildings have stood the test of time.

We shall have a secretary who can apply to railway companies, owners of mills, private owners, architects, engineers and others, who will no doubt willingly place the results of their experience at our service. Some of us may visit works, some have actual experience in the new system, and when we have digested this knowledge we can as a body express an opinion as to its usefulness, its safety, its permanence and other qualities, which opinion we may fairly hope will be of value to our fellow countrymen.

Something of this kind has been done already in other countries. The German Association of Architects and Engineers in conjunction with the Concrete Association have drawn up a report; the American Institute of Civil Engineers in conjunction with various other bodies have appointed a committee which is at present engaged on similar work, and it is suggested that we should apply for copies of such information or interim reports as may be at its disposal; the French Government also is said to have appointed a committee to prepare a set of recommendations.

A general expression of opinion as to its value would not help other architects or engineers very much; we should therefore consider and report upon the following amongst other matters, as to which there is doubt:—

1. Whether such constructions are permanent or likely to deteriorate with time. The steel skeleton is said by all those who have studied the subject not to rust, and even when steel is imbedded in a material such as coke-breeze concrete containing a proportion of sulphur there is said to be no rusting. As any reduction in the section of the metal by rusting might endanger the work, we should consider if it ever does rust and under what circumstances, so as to advise upon any necessary precautions or to reassure the doubters on this head.

2. The resistance to fire. We shall have to consider what has been done in experimental tests such as those of the city of Hamburg authorities in 1895 and of the British Fire Prevention Committee just made. Also the results of tests in actual fires in buildings, such as the Baltimore fire, where the conditions were exactly those we have to provide against. We may thus be able to form definite conclusions of value to all interested.

3. The method of contracting. There are about fifty different so-called patent systems, and it is usual to entrust the design of any proposed work to one of the firms who make a specialty of this class of construction, obtaining from that firm a guarantee of strength. This arrangement is probably quite desirable, but as a certain responsibility must always lie on the engineer or architect who accepts or recommends for acceptance any such design, it is desirable for us to define as best we may the responsibility of the parties.

For instance, it may be made clear that the contracting firm undertakes all responsibility; you may consider it wise to require that the drawings should first be submitted to the architect or engineer, and should be signed by the contracting firm or by some responsible person on their behalf. Some firms try to make a secret of their system and object to showing the drawings.

It may appear to you that to accept a plan for floor or roof or wall or column or bridge or water-tank (all matters of construction in which we are supposed to be skilled) without making ourselves acquainted with what is to be done is dangerously foolish; and if so, your opinion may have sufficient weight to settle that question. Captious interference we should all deprecate, of course, but the engineer or architect must be in command, and must know not only what is proposed to be done, but how it should be done.

We can still leave ample freedom to the experts in the design of the work, in the choice of material and method of carrying out the work.

4. The materials also will no doubt be considered. These are:—

(*a*) The metal, iron or steel.

(*b*) The cement.

(*c*) The sand.

(*d*) The aggregate, ballast or stone, &c.

For the steel and the cement we shall have the standard specification of the British Engineering Standards Committee, and must inquire if qualities of the standard kinds are suitable for reinforced concretework.

As to the sand, you know how universally the qualities of good sand are given as clean and sharp. We have to review all that in the light of recent knowledge. In America many experiments have been made which show that cleanness is not so all-essential as has been supposed, and that washing does not improve every sand. These results were arrived at by experiments on material not only seven days or twenty-one days old, but were made on pieces of various ages up to three years.

Certain work in that way is being done here, and when we have collected and considered the facts our opinion based on knowledge should be of value.

Next as to the sharpness. You may find that sharpness is not so important as variety in size of the grains of sand. Compactness and freedom from voids appear to play a most important part in the strength of mortar, and that freedom from voids may best be obtained by variety of size. These questions we should study with an open mind, free from ancient prejudice.

Then there is the aggregate of stone, gravel, coke-breeze, &c., what proportion to use, what material to use to get the best results in given cases. If we find that washing the sand may be saved, and that concretes of leaner mixture may be used than hitherto with equal safety, we shall have done some good.

Questions arise as to the mixing. We want to know what is the proper way to mix our concrete; how much water to use; whether the sand, gravel and cement should all be mixed together and the water added, or whether the sand, cement and water should be made first into mortar and the gravel or stone added, as recommended by some. We want to know the value of mixing machines, and whether it is wise to allow a smaller proportion of cement, say 10 per cent. less, if the concrete is mixed by machinery, owing to the fact that it is better mixed. Into all these we must inquire, so as to be able to advise our brother architects and engineers.

5. Another subject is the carrying out of the work. Should we require that only skilled men under skilled supervision be employed; that the work be kept wetted, be stopped in frosty weather; how long the centres should be kept up, &c.? All these can only be indicated as matters for your consideration and judgment, and upon which an authoritative pronouncement would be desirable.

6. One important question which we must consider is what are the safe stresses to allow in various cases. There is apparently no such general agreement upon the safe stresses and methods of calculation as we find in regard to steel or iron, and it is possible that in the present state of knowledge we cannot tell with sufficient accuracy what are the internal conditions in a non-homogeneous beam to enable us to determine rules which are not open to criticism or improvement with the advance of experience.

Reinforced concrete is, however, being used, and there is need of rules—tentative though they may be—to guide us until we get formulæ which will command general assent. Much has been done in the way of experiment in recent years, so that we are in a much better position to test any of our theories by the results of actual work.

It may be found desirable to refer this part of our subject to a sub-committee of those amongst us who are specially qualified by reason of their mathematical attainments to pronounce upon it.

Our commission is limited to preparing suggestions and recommendations, and therefore any report that may be made will be in the way of advice, and not as fixed and immutable rules.

How far our Building Acts and by-laws should be altered to permit of the use of reinforced concrete walls may also be considered, because as they stand they interfere with the reasonable use of the material.

There is a general feeling that our regulations as to walls should be relaxed in all buildings, at least in rural districts. The agitation for reform in this respect has not yet spread to urban districts, save in regard to the material we are studying; and it certainly seems that if the strength is increased by the use of a metal skeleton the thickness of a concrete wall may be correspondingly reduced.

We fortunately have with us municipal and county engineers and district surveyors whose experience in the working of these by-laws will be of value in restraining too much reforming zeal should we display it.

All the questions thus briefly reviewed are matters upon which the general body of architects and engineers and others interested would no doubt value the consensus of opinion of skilled and disinterested men who have studied the subject. Such an opinion will help the introduction of the material by giving those who hesitate to employ it through want of knowledge, and fear of the responsibility, the assurance of the conditions under which it may safely be used, and give that confidence which is at present lacking. It will call attention to its advantages where it has any, such as road bridges over railways, which at present deteriorate rapidly with rust.

MANCHESTER SOCIETY OF ARCHITECTS.

THE forty-second annual meeting of the Manchester Society of Architects was held on the 25th ult., Mr. J. H. Woodhouse, the president, in the chair. The Council reported an aggregate membership of 223, as against 219 at the date of the last report. Under the will of the late Mr. A. W. Mills the Society had bequeathed to it a legacy of 8,000*l.*, to be raised out of the residuary fund after the death of his wife. Of that sum 5,000*l.* is directed to be set apart and invested so as to produce, as far as practicable, a certain and permanent income therefrom for the benefit of the Society. Mr. Mills further provided that his trustees should select such of his plate, books, pictures, furniture, &c., as would be suitable for the purpose of furnishing a building or rooms for the use of members and students or for ornamental or instructive purposes in any building or buildings belonging to or under the control of the Society. The Council had received such articles from the trustees to the value of about 1,000*l.*, and they were now stored until arrangements could be made to obtain suitable premises for the use of the members. The financial statement showed an adverse balance of 24*l.* The report and accounts were adopted, and Mr. J. H. Woodhouse was re-elected president. The other officers were also elected.

GENERAL.

Mr. Alan H. Gardiner, late scholar of Queen's College, has been elected to the Laycock Studentship of Egyptology at Worcester College, Oxford.

We regret to announce the death of Mr. Thomas Garner (late of the firm of Bodley & Garner), who died on Monday last from heart exhaustion following an attack of influenza.

The Chester Corporation invite from local architects suggestions (with pencil designs) as to how additional office accommodation required for the Corporation can be best provided, with a statement showing the approximate cost of any scheme suggested. Particulars can be obtained from the town clerk. Suggestions, with designs, should be sent in not later than the 31st inst.

The Works Committee of the Marylebone Borough Council have approved a site in Langham Place, Regent Street, near the Polytechnic Institution, which he founded, for the proposed statue of the late Mr. Quintin Hogg, which is to be erected by Mr. G. J. Frampton, R.A., of St. John's Wood.

The Suffolk Institute of Archæology have decided to ask the incumbents of the 528 ecclesiastical parishes in the county to transcribe the inscriptions on all tombstones in their churches and churchyards, so that a permanent record may be kept. Disintegration of the stones, especially on the coast, is found to be very rapid, and many interesting memorials and inscriptions have been lost within the last few years.

The Carnegie Dunfermline Trust, on the recommendation of the joint art committee, which is composed equally of representatives of the Burgh School Board and members of the Trust, have agreed to make application to the Education Department for a grant of 3,000*l.* towards the erection and equipment of a building estimated to cost 5,000*l.*, to be used as a School of Weaving and Design in Dunfermline, the Trust undertaking to provide the balance of 2,000*l.* besides a suitable site.

The Holborn Town Council have postponed for three months the further discussion as to the fate of the Holborn town hall.

The Members' Dinner of the Architectural Association will be held on the 17th inst. in the Georgian Hall, Gaiety Restaurant, Strand.

The Following Additions have recently been made to the National Gallery:—"The Fortune Teller," by George Morland, bequeathed by Mrs. Behrend; "Venus and Cupid," by Velasquez, presented by the National Art Collections Fund. The three following pictures which were lent to the National Gallery of Scotland since 1862 have been returned to Trafalgar Square and are now hung in Room XV., together with a small picture of "The Virgin and Child," ascribed to Martin Schoen, which was formerly hung in the board-room at Trafalgar Square:—"The Conversion of St. Hubert," by the Meister von Werden; "The Adoration of the Kings," by the Meister von Liesborn; "The Annunciation," by the Meister von Liesborn.

Sir Robert Lloyd Patterson, of Croft House, Holywood, near Belfast, president of the Belfast Chamber of Commerce, 1880-95, has bequeathed his bronzes and pictures to the Belfast Free Library Art Gallery, and 6,000*l.* to the Belfast Corporation for providing proper and adequate accommodation for such articles.

Mr. Anthony G. Lyster, engineer in chief to the Mersey Docks and Harbour Board, has been nominated a member of the Consultative International Commission of Works of the Suez Canal. Mr. Lyster has been chosen to take the place vacant by the retirement of Sir John Wolfe Barry.

The American Consul at Munich has published statistics of the picture export trade to the United States. In the year 1905 paintings in oil and water-colours to the value of 135,955 dols. were exported to America from Munich alone. In 1904 the value was 120,228 dols. The exports of pictures to this country from Berlin in 1905 were valued at 70,038 dols.

Mr. Hugh P. Lane, under whose direction the collection of pictures on exhibition in the Free Library, Belfast, has been brought together, has made an interesting offer to Belfast. Out of the 150 pictures on view, valued at about 70,000*l.*, some forty of them are for sale, and may be had on special terms if secured for public collections. Mr. Lane has made a selection of about twenty, which he would propose as the basis of an art gallery, and the price of which amounts to nearly 5,000*l.* If, however, 2,500*l.* worth of them are presented to the proposed gallery he is prepared to give pictures out of his own collection of a not less value than 500*l.*, in proportion to the value of those given.

Mr. Thomas Hoade Woods, senior partner of Messrs. Christie, Manson & Woods, auctioneers, London, left net personalty 483,945*l.* under his will. There is a contingent reversionary bequest of 30,000*l.* amongst the Artists' Benevolent Institution and other institutions.

The Trustees of the Whitechapel Art Gallery in their fifth annual report state that they are considering exhibitions of animal pictures, Mohammedan art, Jewish antiques, the history of the means of locomotion, and Old London. These may extend over years. They add that they have at times been tempted to pass over the gallery to public management, but a majority of the trustees have felt that under independent management the possibilities of usefulness are greater.

The Ballot for the election of officers of the Institution of Civil Engineers has resulted in the election of Sir Alexander B. W. Kennedy as president, Mr. W. R. Galbraith, Mr. William Matthews, Sir E. Leader Williams and Mr. J. G. Inglis as vice-presidents. The Council of the Institution has made the following awards for papers read and discussed before the Institution during the past session:—A Telford gold medal to Mr. J. A. Saner, a Watt gold medal to Mr. G. G. Stoney, and a George Stephenson gold medal to Dr. T. E. Stanton; Telford premiums to Mr. Leonard Bairstow, Mr. H. S. Bidwell, Mr. J. J. Webster, Mr. Cathcart W. Methven, Mr. H. A. Mavor, Sir Frederick R. Upcott, and a Manby premium to Mr. D. E. Lloyd-Davies.

A Work by Miss G. Isherwood dealing with "Monumental Brasses in the Bedfordshire Churches," with illustrations drawn from rubbings, has been published by Mr. Elliot Stock. The churches are dealt with alphabetically. Each brass is carefully described and an historical account is usually given of the person commemorated, together with the inscription. There are no very remarkable brasses in Bedfordshire, but this does not detract from the value of the small work as a county record.

The Authorities of the Berlin Museum have refused to lend the six panels which formed part of the "Adoration of the Lamb" by the Brothers Van Eyck, and which were required in order to display the complete work in a proposed exhibition at Ghent.

The Edinburgh Town Council on Tuesday approved of the recommendation that the use of Saughton Park and grounds should be granted for the Scottish National Exhibition in 1908.

M. Bussat, one of the municipal councillors of Paris, is about to propose the creation of a "Museum of Social Art" in one of the districts of the city where the working classes abound.

Members of the Society of Architects will to-morrow (Saturday) visit the Ilford Crematorium. Mr. A. C. Freeman will guide the party.

The Chapel of the Order of St. Michael and St. George, in St. Paul's Cathedral, will be opened on June 12. It is expected that the King will be present.

Messrs. Doulton & Co. will have open next week at the New Dudley Gallery, Piccadilly, an exhibition of new effects in pottery.

An Examination to qualify for membership in the Society of Architects was held in Manchester and London from April 10 to 12. The following have satisfied the examiners, and are entitled to make application for membership:—H. C. Anderson, E. E. Barks, A. H. Dungay, W. Fenn, H. W. Meech, A. Race, A. J. Stringer, A. C. Veale.

Messrs. Josiah Wedgwood & Sons, Ltd., have decided to open a museum at their works at Etruria for the purpose of exhibiting the old Wedgwood ware in their possession, together with the moulds, &c., used for its production and the pattern and account books relating to the great potter's business transactions.

Mr. John Brooke, who died suddenly in Chelsea, was an assistant to the late William Morris and Burne-Jones. Afterwards he was associated with the Minton studio. He was engaged to write a report on the art tiles and mosaics of the Paris Exhibition of 1889.

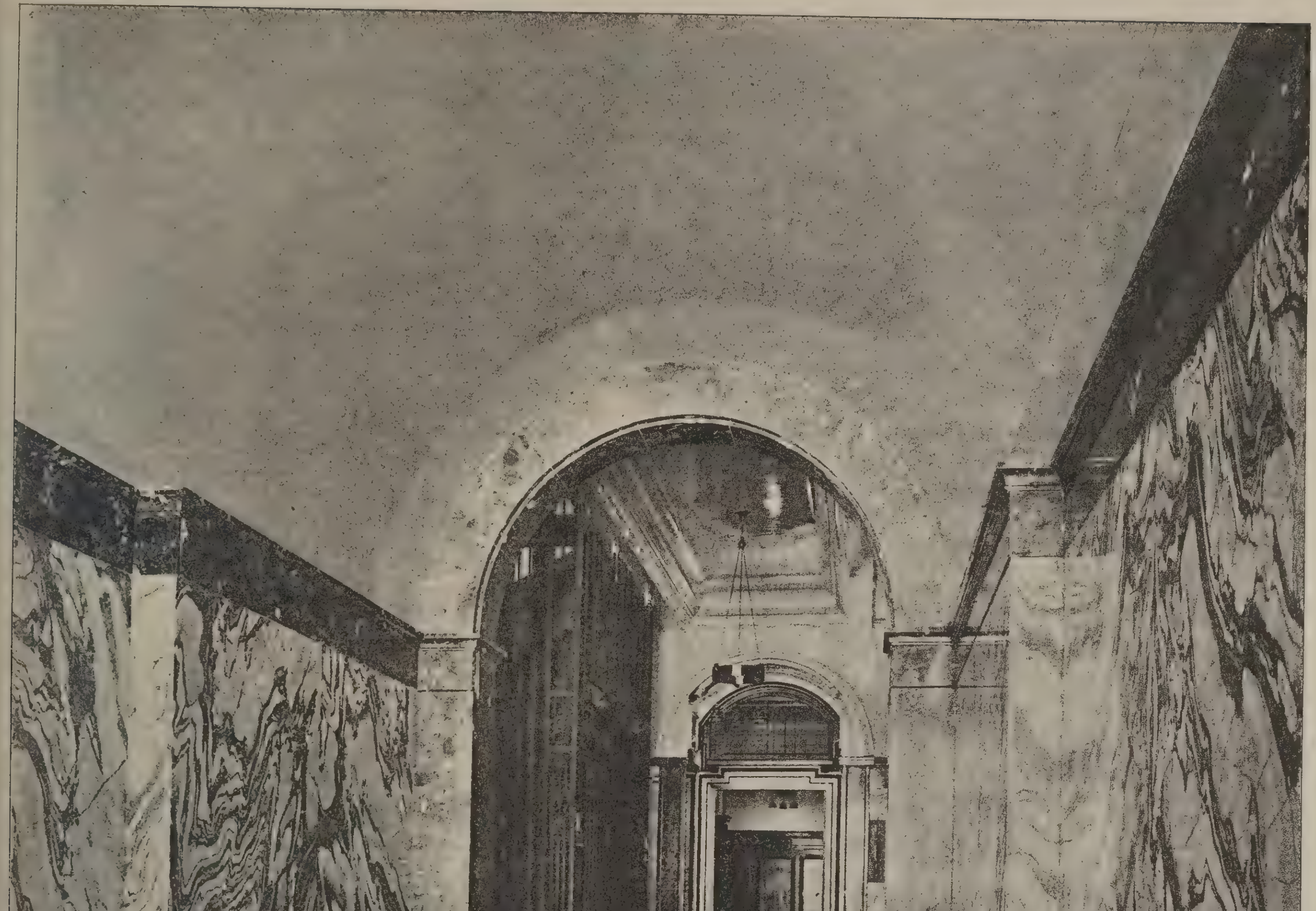
On Saturday, April 21, fifty of the building trade students and teachers of the London County Council Camberwell School of Arts and Crafts inspected the brickmaking works of Messrs. Eastwood & Co., Ltd., at Conyer, Teynham, Kent, when by the kindness of the firm they were hospitably entertained and shown, under the guidance of Mr. Alfred Wragge, the various processes by which perfect stocks can be turned out in seven days. A most instructive day was spent by the students, and the firm is to be congratulated upon the successful results of their efforts to provide such interesting practical instruction. The school has to thank Messrs. Eastwood for the public spirit they have shown in gratuitously supplying it, for lecture purposes, with a complete set of bricks and cement, together with specimens of the raw materials.

The Annual Report of the Amalgamated Society of Engineers says the year was one of steady improvement in trade and also one of steady improvement in the Society. The exports of engineering products during the year exceeded all previous records, and reached the total of 23,267,621*l.*, as compared with 21,082,502*l.* the year before, which was also then the highest on record. It was, says the report, a very satisfactory indication of trade prosperity, so far as that prosperity could be said to depend upon the foreign trade. It showed that whatever the future might have in store for the engineer so far as trade with foreign countries was concerned, the British engineer was as yet keeping up the pace very well.

Dr. G. G. Revay, of New York, with several members of the staff of the United States Steel Corporation, is visiting Europe to inspect a number of plants which may furnish ideas useful in planning some parts of the company's important projected improvements. He also proposes to look into several electro-chemical processes while in Europe, with a view to their introduction into the United States.

The Streets and Buildings Committee of the Town Council of Edinburgh have considered the estimates of revenue and expenditure for the ensuing year. Under the heading of streets, footpaths and public safety, the estimated net expenditure is 53,605*l.*, compared with an estimated expenditure of 54,675*l.* in the year 1905-6 and an actual expenditure of 54,194*l.* in the year 1904-5. Under the heading of sewers and drains, the estimated expenditure is 29,175*l.*, compared with 28,945*l.* in the previous year and an actual expenditure of 28,104*l.* in the year 1904-5. The capital expenditure on streets and buildings is estimated at 15,010*l.*, to be incurred chiefly in connection with a bridge at Tynecastle, a sea wall at Joppa and various new sewers.

A Large Convent is to be erected near Ryde for one of the orders of refugee nuns from France. The plans will be prepared by Mr. G. Goldie.



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ENTRANCE HALL.

JOHN ARCHIBALD CAMPBELL, Architect.

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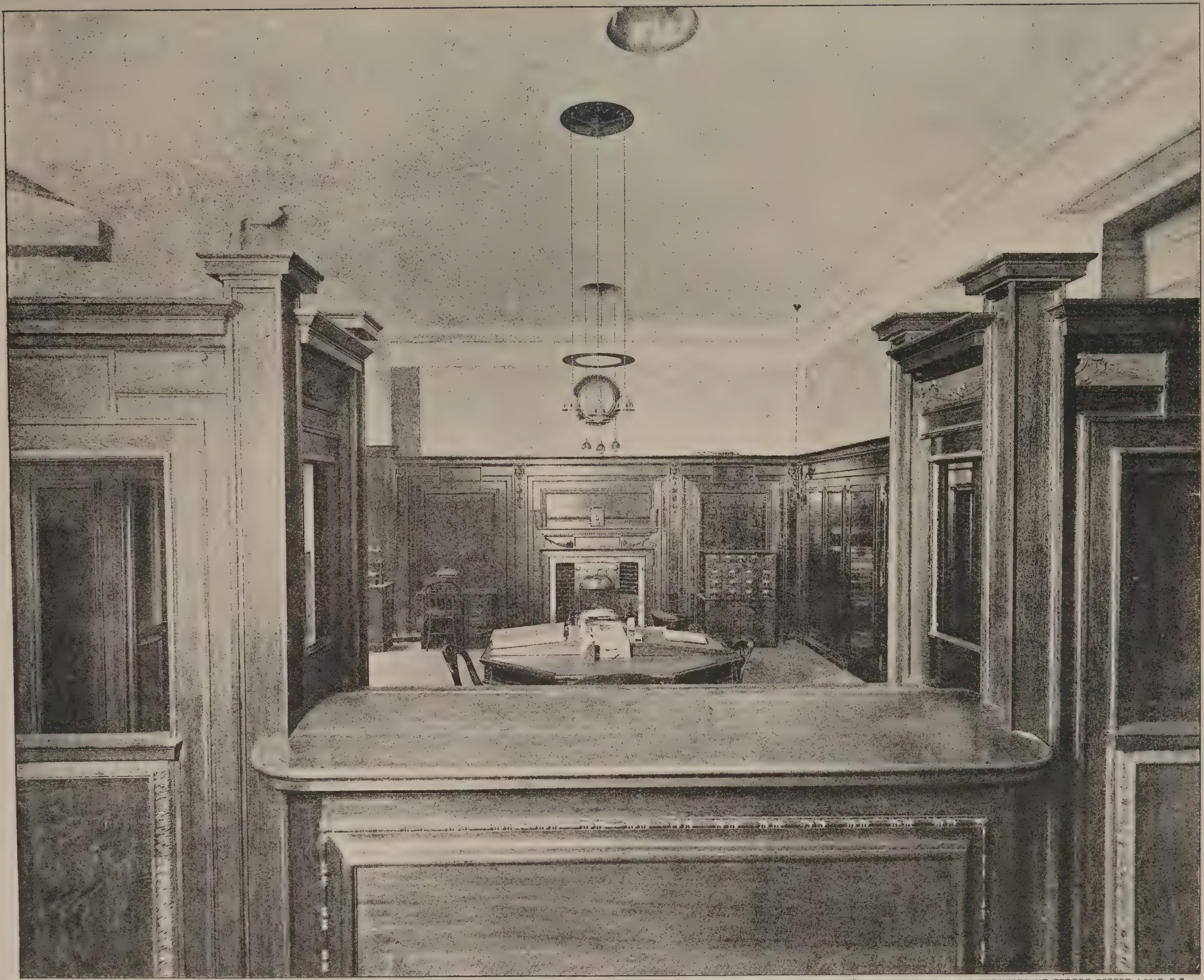

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NEW BUILDING OF THE EDINBURGH LIFE ASSURANCE COMPANY, 122-128 ST. VINCENT STREET, GLASGOW.
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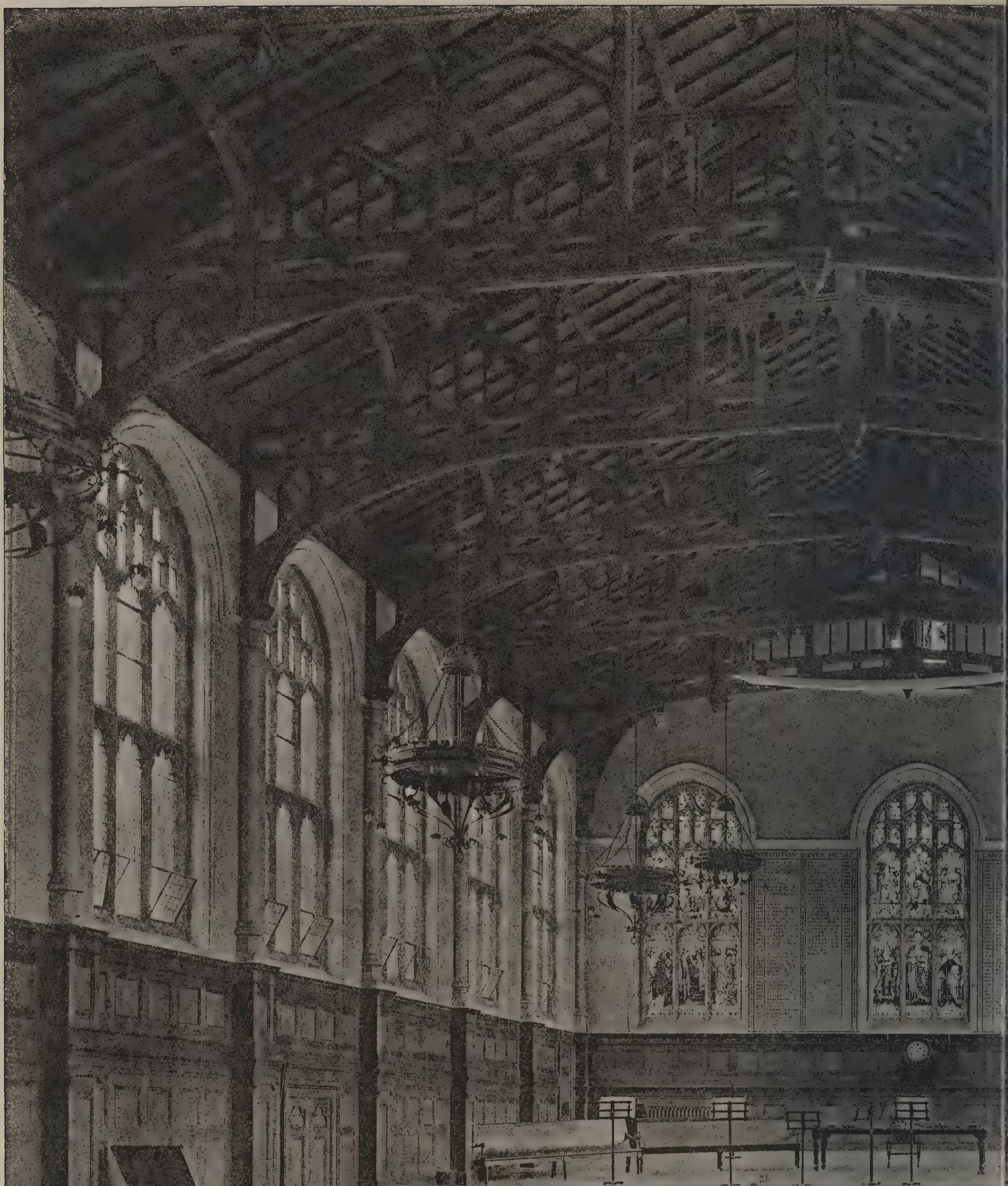

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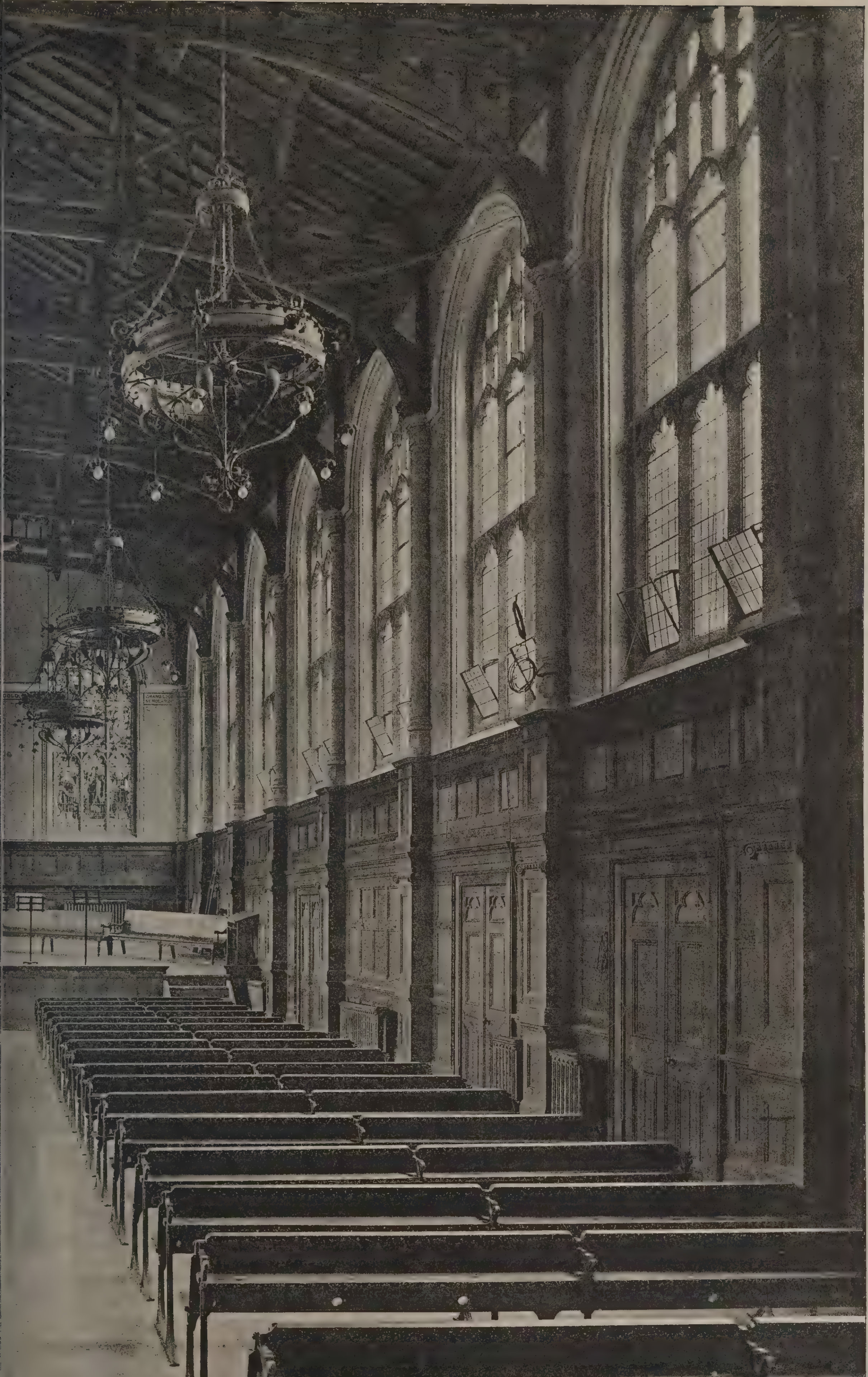

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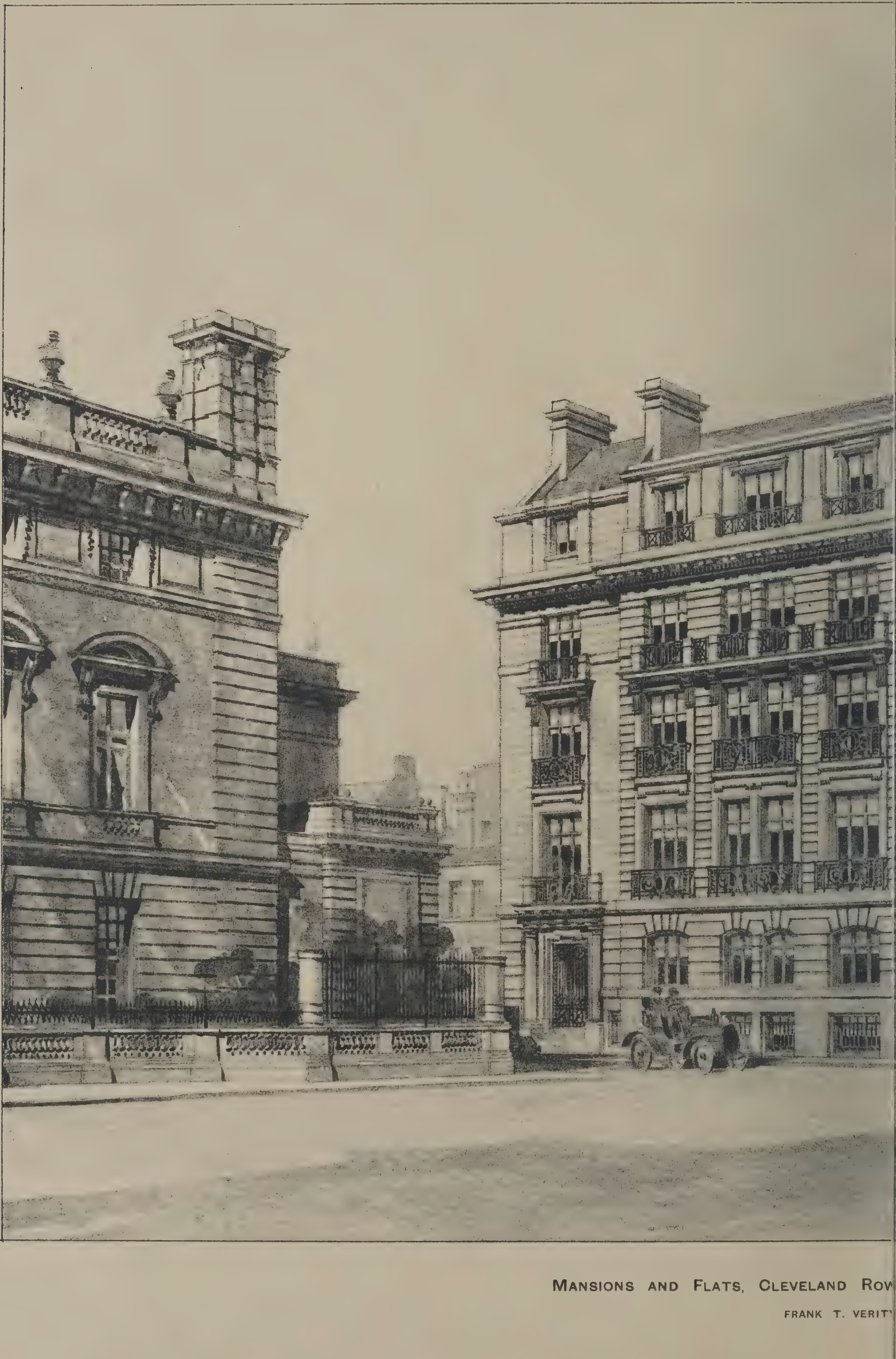

MANSIONS AND FLATS, CLEVELAND ROW

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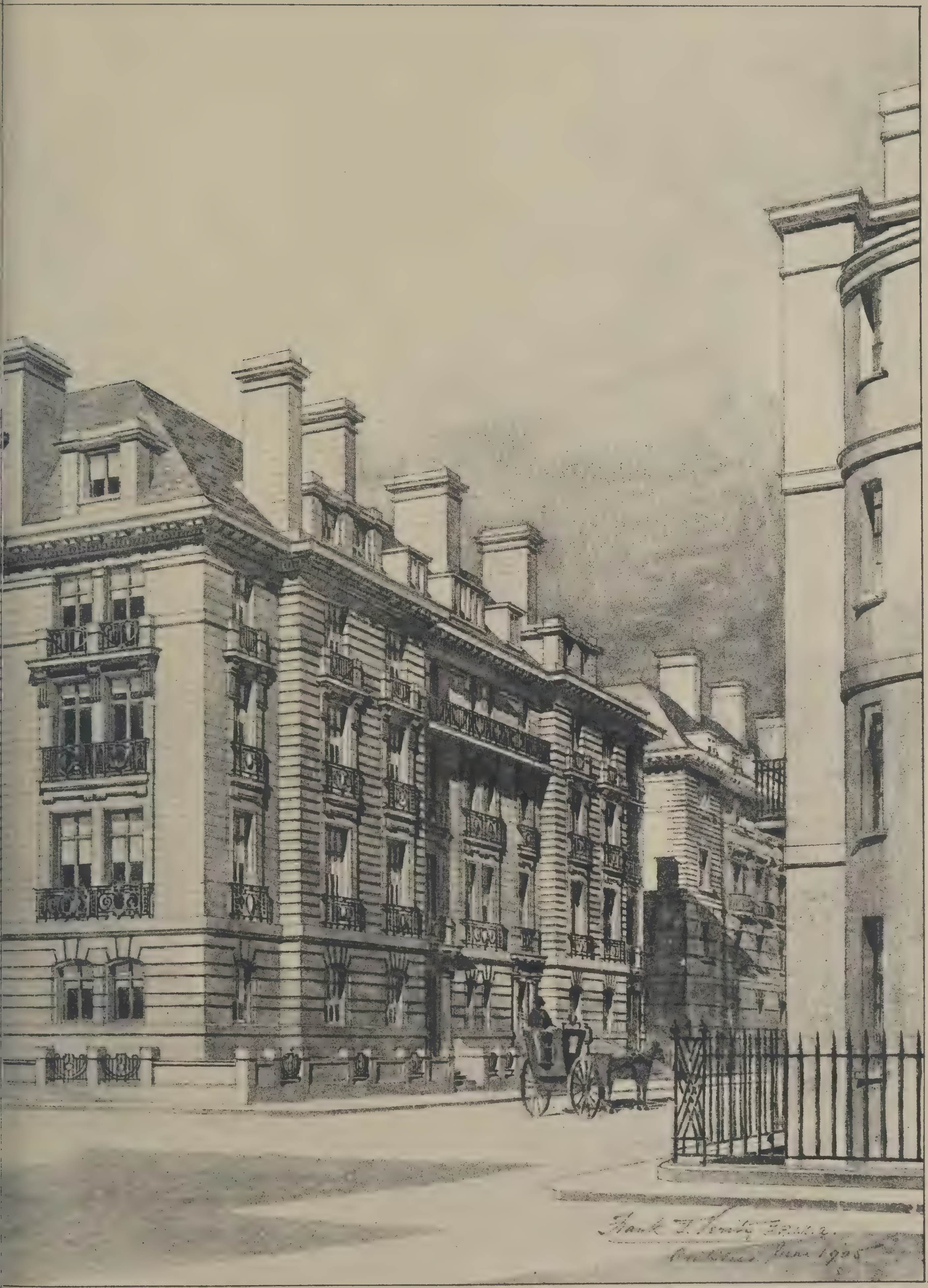

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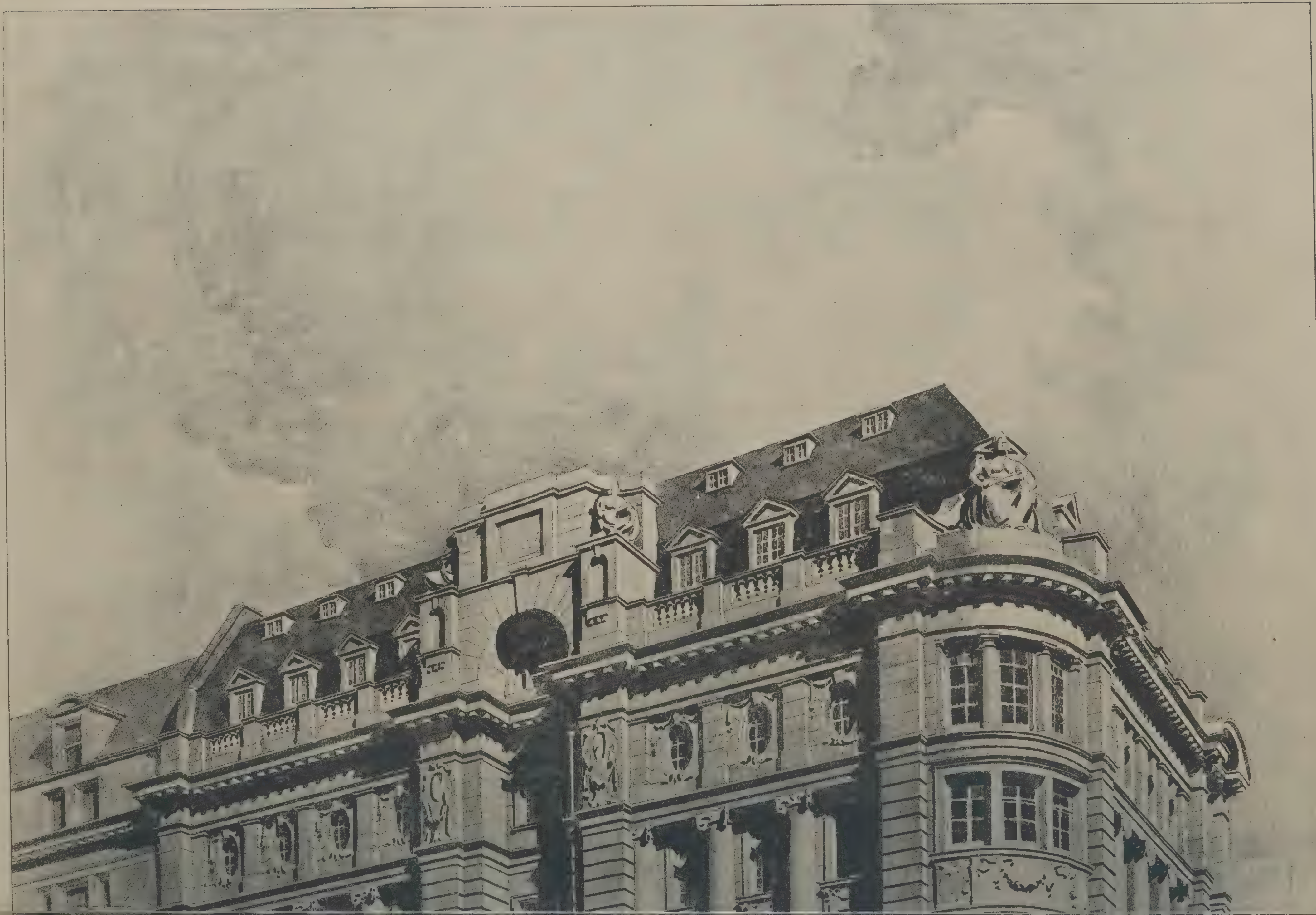

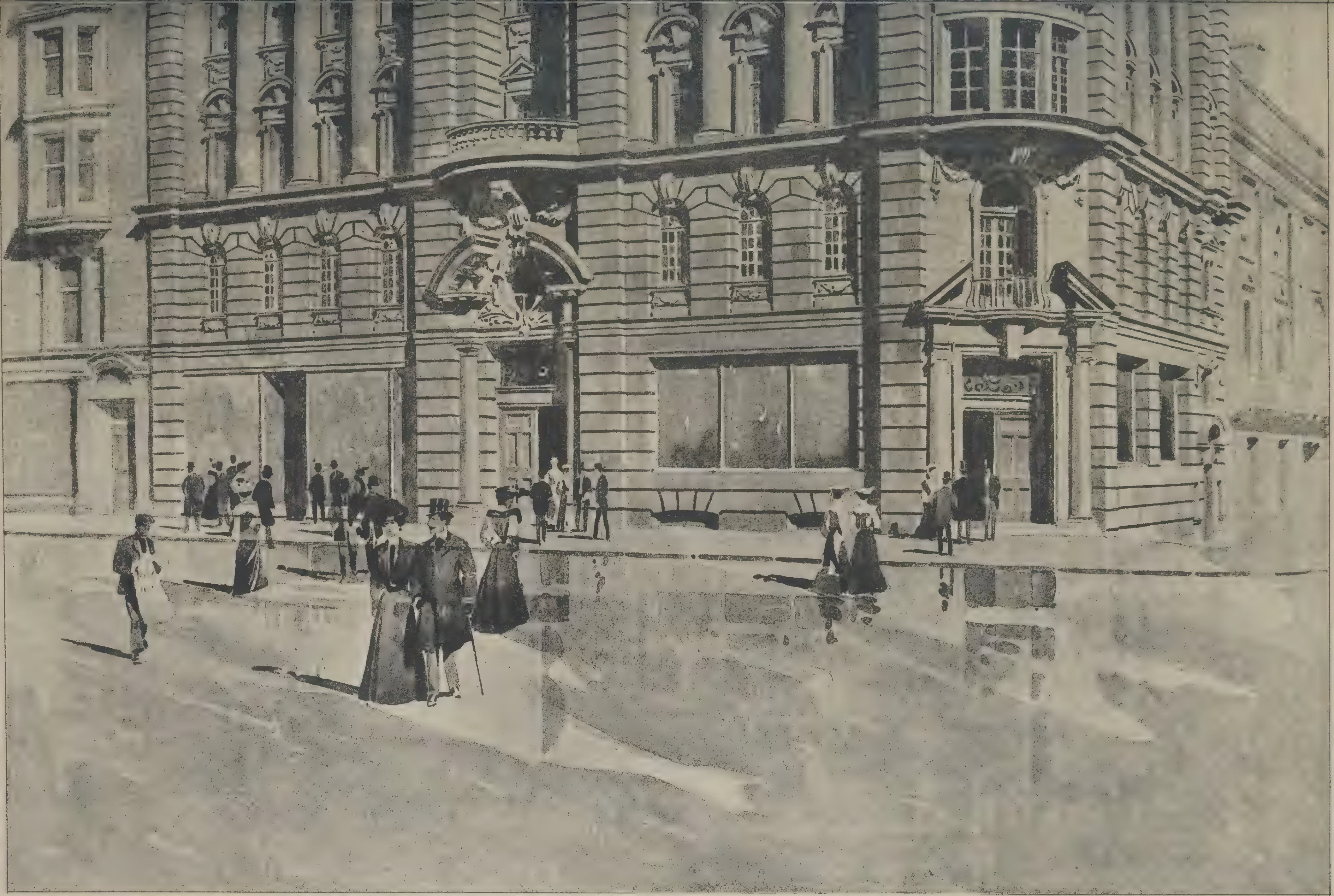

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The Architect.

THE WEEK.

In the course of his speech on Saturday at the banquet of the Royal Academy, the President expressed regret for the loss which had been sustained by the death of Mr. Alfred Waterhouse. He was, said the President, "one of the most successful architects of our day, who has left behind him many important buildings to preserve his fame, among which the best known to those present will be the Natural History Museum at South Kensington. Not only his gifts, but a singular charm and urbanity of manner, accentuating his talents as a man of business, made him exceptionally pleasant to deal with. An attack of paralysis, due no doubt to an excess of hard work, deprived us of his services as treasurer many years ago, and his loss was on all grounds felt by his colleagues." In announcing the appointment of Dr. Spence-Jones, Dean of Gloucester, as professor of ancient history—an office first held by Oliver Goldsmith—the President referred to the Dean's love and care for his cathedral during twenty years. Sir Edward Poynter finally took advantage of the opportunity to advocate the Strand improvement, and he said:—"I cannot believe that the body which was so earnest to save the view from Richmond Hill will let slip this golden occasion, one which so rarely occurs, of adopting a scheme which shall be worthy of our great Metropolis—a scheme which can now be carried out without difficulty, but which, if it is rejected, will be lost for ever." It remains to be seen whether the London County Council, after so large an expenditure on changing the character of the Strand, will hesitate to accept the slight loss which improvement of the building line will involve.

Ordinances and regulations have been approved for conferring degrees in Applied Science by the Sheffield University. The degrees will comprise:—Bachelor of Engineering (B.Eng.), Master of Engineering (M.Eng.), Doctor of Engineering (D.Eng.), Bachelor of Metallurgy (B.Met.), Master of Metallurgy (M.Met.), Doctor of Metallurgy (D.Met.). Candidates for Bachelor of Engineering degree must furnish certificates of having passed the matriculation examination of the Joint Board of the universities of Manchester, Liverpool, Leeds and Sheffield, or an examination accepted by the Board as equivalent to the matriculation examination, and of having attended for at least one university year subsequent to matriculation a course of study approved by the university in each of the subjects in which they present themselves for examination. There will be an intermediate examination in (1) pure and applied mathematics; (2) machine drawing and design; (3) engineering, Courses A and B; (4) physics or chemistry. The final examination will be in five subjects selected from the following:—(1) Pure and applied mathematics (compulsory); (2) mechanics of machinery and materials of construction; (3) hydraulics; (4) heat engines; (5) civil engineering and surveying; (6) civil engineering design; (7) general transmission and distribution of electricity; (8) design of electrical machinery and apparatus; (9) workshop practice, theory of machine tools; (10) machine drawing and design; (11) geology. For the degree of Bachelor of Engineering with honours it will be necessary to pass in a higher standard in two out of the five selected subjects. The examinations in metallurgy and mining are severe. There will also be Associateships in the Faculty of Engineering. The fees to be paid for the various examinations and degrees will be:—In the Faculties of Arts, Pure Science and Applied Science.—Examinations: For the intermediate examination, 1*l.*; for the final examination, 1*l.*; for re-examination, 5*s.* in each subject. Degrees: For the Bachelor's Degree, 5*l.*; for the Master's Degree, 5*l.*; for the Doctor's Degree, 10*l.*

The curator of the Walker Art Gallery, Liverpool, Mr. A. Rimbault Dibdin, has presented a report on results of the visit of representatives of the Corporation to studios and exhibitions in London in order to make arrangements for the next autumn exhibition:—"The general impression resulting from the labours of the deputation is that while the imagination, skill and technical achievement of painters and sculptors are maintained at a very high level, there is evidence of a disposition on the part of painters to refrain from undertaking important subject pictures, the reason frankly advanced for this being that the present fashion of buying at large prices works by (or ascribed to) old masters has practically put an end to the encouragement of modern art by wealthy patrons. The Chantrey Trustees and municipal galleries are now, it has been stated repeatedly, almost the only patrons for large subject pictures. While important works of that genre are comparatively few, there are many excellent landscapes and portraits. Artists who use water-colour, tempera, pastel, &c., showed the deputation a number of interesting and desirable works. Most sculptors are apparently very fully occupied at the present time with important commissions. There should be no difficulty, however, in obtaining the small amount of sculpture which is all that can be shown to advantage in the present exhibition rooms." It is proposed to include in the autumn exhibition drawings in black and white, engravings, lithographs, colour prints, pastels. The prejudice against work of the kind has endured too long. In France and Germany lithography of all kinds is recognised, and able painters do not consider it undignified to draw on stone. Only rich people can now afford to purchase works of art. But the desires of others who have not much money to spend should also be considered. We hope the Liverpool experiment will be tried and become a success.

The technical instruction in some of the institutes of the London County Council is to comprise additional subjects. In the Central School of Arts and Crafts provision is to be made for the training of boys who intend to enter the silversmith's or kindred trades. The course will be a wide one, including elementary mensuration, geometry, geometrical drawing, freehand and model drawing, clay and wax modelling, elementary science, English composition, history, geography, workshop drawing, the technology of metals and tools and benchwork. The practical work is to comprise filing, piercing, jointing, smithing, square boxwork, mounting, blowpipe work, the use of small hand tools generally, chasing, metal carving and analogous operations. The course will normally extend over a period of three years. At first twenty boys will enter the classes, ten having free studentships, while the others will pay 30*s.* a year. Day classes are to be opened experimentally for apprentices of the furniture trades in the Shoreditch Technical Institute, with the approval of several employers. It is suggested that a class should be opened for eight students in September 1906, on any afternoon except Saturday for three hours, the time of meeting being fixed to suit the majority of the students. The instruction given will be partly in the workshop and partly in the drawing office. The practical work will be arranged so as to associate the principle of cabinet design more closely with actual workshop practice. The drawing office work will be specially suited to the needs of working cabinet-makers, and will include the theory and practice of workshop drawings. The cost of the class, including the salary of the teacher and the outlay on materials used, will probably be about 100*l.* The builders' quantities class in the Westminster Technical Institute is to be held on an additional evening.

ARCHITECTURE AT THE ROYAL ACADEMY.—II.

THERE are three designs in the room by Mr. T. G. Jackson, which are placed together in positions which generally give dissatisfaction to those whose works are found there. One is a "New Entrance to Danby Hall," which is Elizabethan in style. Another is the "Chapel for Giggleswick School," which is surmounted by a sort of simple domical structure. The third is the "Enlargement of Billinge Church" by an interesting approach. Mr. Aitchison does not exhibit. Mr. Bodley sends the first design for a monument of the late Marquess of Salisbury, which is curious from the introduction of three figures of bishops over the tomb on which the statesman lies. Mr. Blomfield contributes a part elevation of new "United University Club House," which is Renaissance in style, the orders being carried through two storeys and the windows square-headed. An architectural and archæological problem is revived by Mr. J. J. Stevenson's "Restoration of the Mausoleum of Halicarnassos." A description is written on the drawing, but at the height it is illegible. The lower part is square, but a truncated pyramid appears to pass through the upper storey and to serve as a base for the quadriga. Another drawing by the architect is likewise monumental, a structure in Largs Cemetery, Ayrshire. It is a tomb sheltered by a Classic screen which is graceful in design. "The King Edward VII. Sanatorium," by Mr. H. Percy Adams, is shown on two drawings, the north front and the lodge. The building has a pleasing and cheerful exterior without anything that would be depressing to patients, who can easily imagine themselves to be guests in a Sussex mansion of a superior class. The new buildings by Mr. E. I'Anson in Giltspur Street, for St. Bartholomew's Hospital, might at first sight be taken for modern city warehouses. Economy dictated their character, and they will no doubt serve all the important purposes for which they will be erected. "The Gladstone National Memorial," in the form of a library and residence, Hawarden, is a larger group of buildings than might be supposed to be necessary in a remote town. It will serve as an educational centre. Messrs. Douglas & Minshull, the architects, have adopted Late Gothic as the style, the windows being of large size. The group is well adapted for its purpose, and is dignified and appropriate. "The Refuge Assurance Company, Manchester," has been enlarged from the plans of Mr. Paul Waterhouse. The block is improved by the addition of a tower. The style of the original building has, of course, been respected.

Imperialism is no doubt a privilege, but if Colonial architects claim the right of admission to the Royal Academy another cause arises for the enlargement of the Architectural Room, or the erection of a new and special gallery. Messrs. Scott & Hudson, of Durban, are represented by the new Town Hall and Municipal Offices in that city. It is of a Renaissance type, and would be adapted for any English town. It is remarkable that throughout the world some form or other of Classic is preferred for public buildings. As compensation South Africa can offer commissions to English architects. The church of St. Mary, Johannesburg, with its cloister and parish hall, of which Mr. G. H. Fellowes Prynne is the architect, reveals that the conditions of building, especially in churches, correspond with those in England. It is a fine example of Gothic, with a resplendent reredos, a tall steeple and other characteristics of an advanced English building. Mr. R. G. Kirkby, of Pietermaritzburg, has designs for an insurance office in Cape Town and for the new Law Courts. Neither is suggestive of Holland.

English churches are numerous. In his design for one at Epsom Mr. C. H. Mileham has adopted a treatment that recalls Norman work. Mr. Frank Freeman's selected design for "Holy Trinity Church, Failsworth," is picturesque in composition, and augurs well for the young architect's success. "A Chapel for the Community of the Resurrection at Mirfield, Yorkshire," stands on an inclined site, of which advantage is taken by Mr. A. H. Skipworth. In the interior there is an interesting screen. The shafts have raised spiral mouldings as in foreign examples. "The Church of St. Simon, Plymouth," is without a tower, but it is sufficiently complete in itself. The tracery is arranged in a way that suggests monograms. Mr. Harbottle Reed is the architect. "The Tower and Spire of St. George's, Bickley," by Mr. Ernest Newton, are without any novelty of design, and the lower part is concealed by a tree. The new church at Bournemouth, by Mr. G. G. Scott, is severe in style, and the tower has a simplicity and massiveness which would appear strange in a town where later Gothic is in favour.

This year public buildings, with the exception of libraries, are not numerous. The Library at Wakefield, by Messrs. Blomfield & Spiller, is a one-storeyed building, an arrangement possessing many advantages. It is simple in style, and the broad arch which surmounts the entrance suggests that information is available for all. Mr. F. E. P. Edwards shows a design for an extension of the Bradford Town Hall, which is in keeping with Messrs. Lockwood & Mawson's building, erected when Gothic was the only approved style. Mr. E. W. Twining's project for a County Hall in London, which would be erected on a bridge over the Thames, is revived, although the site for a new building has been approved. The style adopted is Gothic of an attenuated type. But it is shown on a good drawing, and the novelty of the structure undoubtedly attracts attention. The elevation of Lancaster Town Hall to Dalton Square, by Mr. E. W. Mountford, presents a severe type of Renaissance. Mr. W. H. Brierley's "Council Chamber, Northallerton," is a stately interior—a Parliament-house on a small scale.

There are some important groups of residences and office buildings. Mr. T. G. Davidson has had the courage to design bank premises for The Hague which are not in keeping with local buildings. The entrance to "Dunham Massie, Cheshire," of which Mr. Compton Hall is architect, is somewhat Gothic in style, and recalls the feudalism of the owner by the motto in large letters, "Ma Puissance." The drawing of "Hornton Court, Kensington," Mr. J. D. Coleridge architect, does not do justice to one of the most important of the transformation works of which Kensington is the scene. There are shops on the ground level, there is a balustraded terrace over them, and in the rear are numerous flats. The group is interesting from a municipal point of view, for although it suggests airiness as well as an open space, the loss to the owners of the ground cannot be excessive. If the enterprise should be financially successful there are many thoroughfares in London which could be treated in the same way. In "The New Buildings in Wardour Street," by Mr. F. L. Pearson, the ground storey is advanced beyond the main building, and not only a balustrade but sculptured figures on it were proposed. We believe that interesting arrangement has been set aside, and the whole building is on one plane. The change allows of greater floor space, but an excellent design has been sacrificed. Mr. Statham's "Proposed Offices, Catherine Street," shows the windows as slightly set back; the piers have therefore an expression of strength. The brickwork is in part chequered and the arrangement of the roof gives a picturesque sky-line. "The Staircase, Brook House, Park Lane," is well treated by Mr. Arnold Mitchell. A large space was available, and is lighted from above. Colour has been employed in a way which emphasises the architectural features. Mr. Bradshaw's central tower of the Leysian Mission Buildings suggests one of the reasons for the success of the group, which is unlike all the others in its vicinity. "The Ladies' House, Seymour Place," by Mr. J. T. Lee, is an immense collection of residences, and apparently less costly in the architectural details than one of the Rowton Houses. But it suggests the social tendencies which must alter the character of many streets, and not to their advantage. "The Norwich Union's Head Office," by Mr. G. J. Skipper, presents a fine interior, which is richly decorated with colour. Visits to such places are rarely agreeable, and it is wise to avoid suggesting that there was a close connection between them and sepulchres—an oversight of which there are several prominent examples. Taken as a whole, the collection offers many subjects of reflection to the student of architecture.

PAINTING AT THE ROYAL ACADEMY.

THERE are not many paintings in this year's exhibition at the Royal Academy which can be said to have a special interest for architects. Representations of buildings are few. There is an absence of subjects which might be considered as decorative. We are far from asserting that either class of work should be in the ascendant. But the absence of them indicates one of the characteristics of the exhibition. Where decorative work is employed there will be necessarily respect for rules of composition—it may be of the academic kind. This year, however, composition in the old sense of the word is not particularly respected. There is so much striving after originality in one form or another, as if novelty could insure sales, that the rooms on that account present a somewhat unusual appearance.

We think it right that those who have attempted architectural subjects should, primarily, have some recognition. The first example following the catalogue order is Mr. Albert Goodwin's *S. Giorgio, Venice.* He shows the old church and island as seen from a point near the Dogana. The artist usually makes clouds his auxiliaries. On this occasion he has been struck by the quietude of the scene, the afterglow, as if Venice were identified with repose. Mr. Harold Speed shows the *Temple at Tivoli by Moonlight.* That beautiful ruin has been as often represented as any work of antiquity. In this case the full height of the rock on which it stands is not suggested. The temple becomes pathetic, and the part of the rock seen scintillates in splendour. Mr. Frits Thaulow has selected an admirable subject in his *Entreé du Château Royal à Copenhague.* The palace is not an imposing structure, but it is well adapted for the weird treatment of which the painter is a master. The rather bizarre bridge and the gloomy water aid in the desired effect, and one of those discordant elements for which Mr. Thaulow has a weakness is found in the bright red roof of a neighbouring building. Mr. G. D. Leslie's *Deserted Mill* in a way corresponds with Mr. Goodwin's *Venice*, for if one is suffused with a grayish blue atmosphere, the Berkshire subject has a grayish green. Mr. Goodwin does not repeat himself in his atmospheric effects. But Mr. Leslie is beginning to see nature as if it were always illuminated in the same way. Mr. Seymour-Lucas is generally very accurate, yet he has placed Old St. Paul's at a greater distance from the churchyard than plans would confirm. The picture, it may be said, is a mere illustration of an event, without any of those suggestions of character which are found in most of his other paintings.

It is not often blue and other tiles are represented with the fidelity which we see in Bey Osman Hamdy's *Jeune Emir à l'Etude.* Other accessories of the room, including ancient books and a wonderfully adorned candlestick, are given with admirable correctness. The young turbaned Turk reclines on a couch, and his attention appears concentrated on a volume before him. The painting has appeared in the Salon, and it suggests how, in spite of doctrinal and other difficulties, art cannot be entirely suppressed by the Ottoman. Mr. Innes Fripp, in his *Dives and Lazarus*, introduces a grandiose interior. *The Ruins of the Amphitheatre, Pompeii,* have been represented by Mr. Wynne Apperley in a manner which is creditable. Mr. F. H. Williams in his *Interior, National Gallery*, has had the courage to depict a building which is condemned without reason. He has made a really interesting painting of one of the recent halls. The most important, however, of all the architectural paintings is Mr. John Fulleylove's *The Acropolis from the Pnyx, Athens.* It is of large size, and has been hung in a position in which it can be examined without any strain on the eyes. We cannot recall any English painting which does so much justice to one of the most memorable of subjects, and which happily for humanity possesses perennial interest. As private collectors might not consider the picture a popular or marketable one, it should have been acquired for the Chantrey collection, which is deficient in architectural subjects. Among the 250 water-colours shown this year there are several architectural scenes. But, as we have said, there is an absence of them among the oil-paintings, and that circumstance will help to give a general notion of the exhibition. The subjects treated do not require elaborate backgrounds. Some of the incidents are supposed to have arisen in towns, but the surroundings are not of a kind which call for much attention. The picture which is likely to be most talked of, *The Ever-Open Door*, by Mr. Sigismund Goetze, has an opening approached by steps which cannot be considered as in any way architecturesque.

It might easily be imagined that architecture would be utilised this year. For some of the pictures which are already condemned, and which therefore have something remarkable about them, are paintings of historical subjects, or it would be more correct to say costume pieces, in which the builder's art is generally supposed to be necessary. The painting which has already won notoriety, if not renown, is Mr. Abbey's *Columbus in the New World.* When seen for the first time from the end of the long gallery it may appear, especially as a ship is introduced, as a scene on board the discoverer's vessel, which has been decorated with bunting to celebrate the success of the voyage. The event, however, is on the land and the *Santa Maria* is very close to the shore. Flags are introduced in abundance, and they are not mere bands of two or three colours, as in modern times, but have armorial bearings. Columbus wears his finest suit of armour, and is kneeling on the island, whilst the chaplains in rich chasubles are reciting prayers suitable for so momentous an occasion. Some of the bands, which might at a distance be taken as flags which had become twisted round the supporting cords, are found to be lines of flamingoes, that have been disturbed by the intruders and have taken flight to some safer spot. Behind Columbus are officers, likewise kneeling. Between the vessel and the shore a boat is seen filled with Spaniards. Mr. Abbey is an artist who likes to treat incidents which have become familiar, if not stale, from the numerous representations of them. The arrival of Columbus is the subject of engravings as well as paintings. That could also be said of the Shakespearean scenes which Mr. Abbey has produced. Nevertheless, no artist has hitherto had the courage to accept the logic of circumstances and to imagine what occurred, instead of accepting a studio arrangement. Conventional laws are here set aside. Yet who can say that Mr. Abbey has not come nearer to reality than any of his predecessors? An English admiral would take possession of a South Sea Island in very prosaic fashion. But in the fifteenth century discoveries were rare, and the Spaniards would treat them as solemnities. That Columbus should wear armour is not ridiculous. In Nelson's day English sailors believed the French admirals wore, not only top boots, but spurs. The chaplains would easily, of course, improvise a religious ceremonial. Heraldry was then a symbolic language. That birds would be disturbed and that they should take to flight in the manner which Japanese artists represent is also within the range of possibility. What startles people is not the untruthfulness of the picture, but the hardihood with which ordinary notions of picture arrangement are set aside.

Art should be free, and Mr. ABBEY is to be congratulated not only on his courage and insight, but for the brilliant and novel arrangement of colour which he has produced. Mr. GEORGE GASCOYNE'S *Battle-Dawn* could become an historical painting by a change of title, for it represents a troup of mailed equestrians about to charge. They are seen under a strong sunlight.

An example of a pleasing historical picture in the front room is Mr. A. STEWART'S *A Royal Fugitive, 1746.* It attracts as much by the landscape as by the figures. The Pretender and a few men stand on the mountain-side, and in the valley below the English soldiers are supposed to be searching for the Pretender, who is represented in a characteristic manner supporting himself against a rock, while his companions accept all the anxiety of the occasion. There is no exaggeration in it. The figures are well drawn; the landscape might be a representation of a natural scene. But what is most admirable is that there is no attempt to make the Prince out as more than mortal. Is *The Linnean Society of London: Admission of Lady Fellows,* by Mr. SANT, to be taken as an historical picture? From the gravity of the men and women taking part in it it might be a most serious event for the whole world. Indeed, one expects when the wife of the secretary signs her name to hear cannon let off to announce the beginning of a new era. Mr. Gow's province is very narrow, and he does well to enlarge it. *Elijah* shows the prophet running before AHAB. The king stands on his chariot with the driver. The number of figures is therefore limited. For the chariot and trappings of the horses Assyrian sculpture affords materials. But where in the Bible is it mentioned that the head of the prophet was surrounded by a nimbus? No doubt it was considered that ELIJAH'S superiority could not be suggested in any other way. The nimbus was used in the East, and there are Roman examples. Nevertheless, there is no evidence that rays of light distinguished the prophets from ordinary mortals.

It is somewhat unusual that beside the *Elijah* there are two other Biblical scenes close to the entrance of the large gallery. Mr. H. R. RAINEY represents CAIN as exclaiming, "My punishment is greater than I can bear." It is a well-modelled figure, standing with one arm stretched out, as if to ward off further woes. Some years ago we published a South American artist's *Cain* who appeared to be desirous to enter within a rock against which he knelt in despair. We mention this as a proof of what varied interpretations can be given to simple words. Mr. TITCOMB'S *Benedicite*, a Madonna and Child with angels, is so unworldly and reverential it might well pass as a copy of a work by some early Italian. *The Heretic*, by Mr. FRANK CRAIG, can happily be considered as an historical picture, for if heresy were to be punished in our times the fires would never be extinguished. The artist has given remarkable attention to costume. Those who are desirous of considering how the same incident under similar conditions can appear to two artists would do well to compare Mr. CRAIG'S version with Professor GEETS'S *Martyr of the Sixteenth Century*, which is now in the Guildhall Gallery. It is satisfactory to know how well the English picture will sustain examination. A variety of emotions are expressed in a very subtle way, as, for example, in the monk who covers his mouth with his hand in order to conceal his sympathy; and the brilliancy of the colours would make the picture remarked in any collection. Mr. EDGAR BUNDY has found an excellent subject in his *Capture of James II. at Sheerness*, although there is no scope for his humour. The unlucky king was not much respected alive or dead; but there was no doubt he was to be pitied when he had to put up with the rough treatment of the mob. Mr. ERNEST BOARD'S *Departure of John and Sebastian Cabot from Bristol* will by some be accepted as the most successful of the historical pictures. As a pageant it is more effective than the American scene, for the notabilities of Bristol in the fine robes of the early sixteenth century are present. Works of that kind are almost enough to overcome the prejudice that has existed against the depicting of transactions of a former age. *Off to the Spanish Main*, by Mr. A. D. McCORMICK, also contributes to keep up the interest in the early voyagers. Mr. W. E. G. SOLOMON'S *Ulysses recognised by the Nurse Euryclea* obtained the gold medal and travelling studentship in last December. It is a promising work, especially for the power seen in the head of the wanderer.

There were rumours abroad that the number of portraits this year was likely to be diminished. But they appear to be as numerous as ever. In the first room is *Earl Roberts*, by Mr. SARGENT. The subject is in full regimentals, displaying all his medals and decorations; the latter must have been a trial of the painter's patience, but they are rendered most effectively. The portrait of *Sir Felix Semon*, near it, by Mr. H. VON HERKOMER, is admirable as an expression of racial peculiarities. The same artist has been unusually successful in his portrait of *Mrs. Leopold Albu*. The President has shown his usual painstaking endeavour in the portrait of the Duchess of NORTHUMBERLAND. The *Sir Evelyn Wood*, by Mr. OULESS, is admirable both as a likeness and in the absence of all that restlessness which almost seems to be inherent in English military portraits. Here we have a soldier who appears to be directing operations in a calm assured way with his plan beside him. The picture of the four professors of the Johns Hopkins University, by Mr. SARGENT, was evidently a difficult work. It is impossible when looking at it to forget similar groups by REMBRANDT in which neither subject nor artist had any objection to an expression of geniality. The four American gentlemen, like EMERSON, appear to be afraid of an excess of fellowship, and we think of them as four intellects rather than as four men. They have in excess that self-consciousness which is the bane of English portraiture. The canvas has been enlarged, no doubt with a desire to produce a monumental work. But the great dreary space seems only to emphasise the chilliness of the group. While we recognise the skill of the portraitist, we pity the students who have to look on the painting every day. Mr. HARRIS BROWN has a vigorous portrait of the Provost of Trinity College, Dublin. He is occupied with a pair of large and old volumes, but the head is not a scholar's. There is no use in adding to the objections raised against the admission of the pair of Royal portraits for Ottawa, exhibited by command. That they could be produced in these days must excite our special wonder. Mr. SOLOMON has been successful with the portrait of *Sir Aston Webb. The Lord Bishop of Salisbury*, by Sir GEORGE REID, is not surpassed by any work of its class in the exhibition. Mr. MOUAT LOUDAN displays power and grace in his *Mrs. MacGeorge*, which is his most important work. Mr. GEORGE CLAUSEN is no longer proof against the general temptation, for his portrait of *Mr. Williams Benn, M.P.*, expresses nervous force and strenuousness in a vivid way. There is greater repose in his *Town Clerk of Lincoln*.

There are a few other pictures at which we can merely glance. Sir ALMA-TADEMA'S *Ask Me no More*—a Greek maiden and her lover seated on a marble bench overlooking the sea—is bright with sunshine. But dare we say that the figures have not the relief which was attained in former works by an almost sculpturesque modelling? Mr. WATERHOUSE could hardly find a more suitable pessimistic subject than *The Danaides*. Like so many of his heroines, the sisters are all of a silly type; but they are clad soberly, and the brazen vessels form an excellent contrast with the bluish stuffs and the pale faces. Somewhat akin to it, although of a very different class, is Mr. BRANGWYN'S *Venetian Funeral*, for it also recalls an old hanging. The picture suggests that in Venice, as in Ireland, grief is drowned in intoxicants, and the whole mob of men and women, old and young, have a muddled appearance. Nevertheless such largeness of treatment is almost enough to excite envy and suggests practically unlimited opportunities in the future. But why should so able a painter always attempt to give the effect of mere weavers' work? Anything connected with death cannot be pleasant, and Mr. Sigismund Goetze's *The Ever-Open Door* has to meet a general prejudice which is excusable. It is supposed to consist of incongruous materials, but they are all closely related in sharing the common lot. It must also be allowed that all the constituents are excellently painted, and the general chromatic effect is satisfactory. Mr. Walter Langley has often painted pathetic scenes, but he has never been more pathetic than in his *Fisherman's Widow*—an old woman who seems to be pondering at the place where the wreck occurred. Lastly, we must mention Miss Lucy Kemp Welch's splendid group of horses, who are really expressive of *The Joy of Life.*

SCULPTURE AT THE ROYAL ACADEMY.

It is gratifying to see so many statues this year which are self-expressive without the aid of accessories. By that power English sculptors have made a vast stride towards the great exemplars of the art, the ancient Greeks. A few instances will suggest our meaning. If we take a statue such as the *Dr. Creighton* by Mr. Thornycroft we recognise at once from the embroidered cope, the crozier and other details, that it must represent a bishop, although the mitre, which in heraldry and poetry is the principal characteristic of episcopal costume, is absent. The seated figure of *Sir Thomas Browne*, by Mr. Pegram, might be Burbage or other Elizabethan in the character of Hamlet, or a philosopher, and following out the line of thought it would perhaps be possible to arrive at the conclusion that the subject is the Norwich physician. The majority of English sculptors introduce at all times something which would be explanatory of their creation. When Hiram Power's *Greek Slave* appeared in the Exhibition of 1851 it excited surprise from being the work of an American. Adverse critics, however, condemned it because the woman bore a chain. A Greek sculptor, it was said, would never have inflicted such an indignity on a beautiful woman. But if the chain were removed the figure would need another appellation, and perhaps it would be found that as the sculptor always thought of the figure as a slave there were subtle arrangements which would in a figure to which another title applied have no meaning. Gibson's *Venus* was the rival to the *Slave* and was a gracious goddess, but the sculptor could not trust to beauty alone to explain the pose and figure. Like a tyro he provided the deity with the apple which she was awarded by Paris, the shepherd, in order to remove all doubts from spectators.

Sculptors who have been students at the Academy have reason to believe that a figure must be aided by something external. Did not Reynolds say:—"Take from Apollo his lyre, from Bacchus his thyrsus and vine leaves, and from Meleager the boar's head, and there will remain little or no difference in their characters"? He also refers to the circumstance that the old sculptors sometimes completed their statues and groups and then invited other artists to select titles for them. Reynolds was not an infallible authority, and we believe there are statues in the present exhibition which refute his conclusion. Look, for instance, at the *Eurydice*, by Mr. T. M. Crook. She appears as if about to expire, although there is no symbol to express the weakness. If we compare the *Narcissus* by Mr. Harold Parker with the *Narcissus* by Mr. A. J. Leslie, we see two interpretations of the legend. In one the youth holds his hand to his head as if in surprise at the vision of his beauty, while in the other we see one who is almost bored by his own admiration. In his *Mercury, the Herald*, Mr. David McGill has introduced the caduceus, and that is a concession to Academy tradition. But the figure would be equally expressive of the Olympian orator and messenger by its treatment and the pose. There are other instances which we could refer to as indications of a new spirit. But the reader will do well to seek them out. Several paintings are inspired by classical legends, and when they are selected it is well to endeavour to follow Greek work, which is characterised by the self-sufficiency of the human figure to express beings having certain qualities.

Realism may, however, be considered as omnipotent in the collection. What can be more suggestive of our times than the bust of *Bokane*, the pygmy from Central Africa, by Mr. Goscombe John? It has no doubt ethnological value, and another pygmy might consider it as a type of manly beauty. But its appearance in a gallery of sculpture is puzzling. The group by Mr. Reynolds-Stephens of Queen Elizabeth and Philip of Spain playing *A Royal Game* with ships for pawns is an innovation; but sculpture cannot be restricted to one variety of production. It is sure to be popular, like *The Pixies' Ring*, by Miss Maryon, *The Whisper*, by Mr. T. Tyrrell, and *The Intruder*, by Miss Pownall. Sir C. B. Lawes-Wittewronge some years ago produced a very large group which was expressive of the Mazeppa theme. This year he has a companion group of Dirce. She was the wicked wife of Lycos, and had ordered that Antiope should be dragged to death by a bull. The executioners discovered that Antiope was their mother, and seized Dirce and bound her instead. It is a scene of extraordinary commotion which requires unusual skill, and there is no lack of vigour in any part of the group, which stands in the middle of the central hall.

Mr. Brock indicates the character of the sculpture in the Victoria National Memorial by one of the panels for the fountain. The sweep of the contours of the water nymph on so large a scale is remarkable. Different in character and more enjoyable is his statue of *Gainsborough*, which is intended to be placed in the Millbank Gallery. The style of the statue is as much in keeping with that of the painter as is possible in marble. Like Gainsborough's portraits, it seems to have been wrought for the pleasure of the work. The figure is well modelled, and the apparent concentration of gaze on a supposed model or subject is masterly. Mr. Goscombe John's *Principal Viriamu Jones* is a seated figure and indicates the possession of that self-satisfaction which is considered to be a desirable quality in heads of colleges. Sir William Richmond's *Model for Memorial to Mr. and Mrs. Gladstone* is undoubtedly a difficult work, and it is impossible to obtain a view in the lecture hall which would suggest its position in Hawarden Church. As we see it, it is somewhat suggestive of an ordinary siesta, for the figure of the angel with protecting wings and the construction of the structure below are not unsuitable for a costly bedstead. In Chichester Cathedral there is a well-known tomb of Lord and Lady Arundel. It is not a great work of art, but it is impossible to look at it without feeling the pathos of the situation. The noble was beheaded; we feel the wife still believes in his innocence, and that her faith was stronger than death. The Gladstone memorial has only the pathos which can belong to lifeless forms. Apparently to compensate for what the deceased do not reveal an oxidised figure of the Crucified has been placed on the bodies. We suppose it may be taken as evidence of faith, but it looks as a supplementary appendage which was only temporarily placed in that position. There can be no question about the pains taken with the memorial, and the likenesses of the two figures cannot be disputed. But it is a product of artistic logic rather than of artistic inspiration.

Mr. Gilbert is only represented by a bust, *Francis Petrus Paulus, pictor*, which is very curious, and a small sketch model of St. George and the Dragon, which should be enough to tempt a millionaire to have it reproduced in precious metals, and thus bring a renown which would outweigh the expenditure. The busts and medallions are numerous, and it is satisfactory to observe that metalwork is gaining some recognition. It will be found that the advance of sculptors continues, and in a few years we may expect that the general collection will bear comparison with what is to be seen in a French Salon.

THE LATE THOMAS GARNER.

THE sad and unexpected death of Mr. Thomas Garner, which took place on the last day of April at his beautiful old house, Fritwell Manor, in Oxfordshire, has brought to a close the career of a distinguished architect whose unfailing industry, conspicuous talent and single-minded devotion to his art merit something more than the passing notice which they have so far received.

Born in 1839 at Wasperton Hill in Warwickshire, and reared amidst the old-fashioned and simple surroundings of a remote rural district, Thomas Garner imbibed the natural hearty country instincts which became a part of his nature and were never blunted or diminished during many years of residence in London, and before the long hoped-for return to the country was realised by his establishment in the fine Jacobean manor-house at Fritwell. To his country education he owed the love of riding and the excellent horsemanship which he retained to the last.

Mr. Garner was articled to Sir Gilbert Scott at the early age of seventeen, and served, with the energy and enthusiasm that never left him, as one of the many pupils of that gentleman. Among his contemporaries in Sir Gilbert's office, many have risen to distinction; we may instance Mr. T. G. Jackson, R.A.; Mr. Micklethwaite, architect in charge of Westminster Abbey; and Mr. Somers Clark, who has the care of St. Paul's Cathedral. Mr. G. F. Bodley, R.A., whose partner he was destined to become, just preceded him at Scott's office, but a warm friendship was soon established between the senior and junior. On the completion of his articles Mr. Garner returned to Warwickshire, and was responsible in his first few years of practice for various works on his own account, or as representative of Sir Gilbert Scott. Mr. Garner went back to London about the year 1868 to assist his friend Mr. Bodley, who was rapidly coming into note, and who found himself somewhat overburdened with work. The assistance soon grew into the partnership which was to last for over twenty-five years, and which ceased by the friendly dissolution of a friendly bond about the year 1897. For a time the collaboration of the partners was actual and close, but as work increased upon their hands it became their habit to individualise, each partner assuming the entire and separate responsibility for definite work. The earlier period of close collaboration produced some remarkably successful results, none perhaps more notable than the fine churches of the Holy Angels at Hoar Cross, Staffordshire, and of St. Augustine at Pendlebury, near Manchester. The succeeding period of dual practice under partnership allotted most of the civil or domestic work entrusted to the firm to the almost undivided initiation and control of the junior partner, while his senior devoted himself more especially to ecclesiastical work and to decoration. Mr. Garner was almost entirely responsible for the design and supervision of much of the firm's work at Oxford, such as St. Swithun's Quadrangle at Magdalen and the tower at Christ Church, and entirely so for the President's lodgings at Magdalen. He designed, while his partner was busy with other work, Hewell Grange, Lord Windsor's Worcestershire mansion, with all its elaborate and costly details, the well-known reredos in St. Paul's Cathedral and several sepulchral monuments, such as those of the Bishops of Ely, Lincoln and Chichester, and that of Canon Liddon.

Of his work subsequent to the dissolution of partnership it is sufficient to mention Yarnton Manor, Oxon; the Slipper Chapel at Houghton-le-Dale; Moreton House, Hampstead; the Empire Hotel at Buxton, and the crowning work of his arduous life, the beautiful chancel of Downside Abbey, near Bath, beneath whose roof his body now reposes. Mr. Garner was of a shy and modest disposition, and less known to his contemporaries than his most unusual abilities, scholarship and attainments would have allowed a less retiring character to remain. As an instance, however, of contemporary estimation, we may state, upon the best possible authority, that when Mr. Bentley, stricken by the fatal paralytic stroke, was asked by Cardinal Vaughan what architect he would choose to carry on his work in Westminster Cathedral, he answered "Garner, for he is a man of genius."

Thomas Garner was an admirable and rapid draughtsman and an untiring student. He will long be remembered by his friends for his warm heart, his ardent enthusiasm, his minute and scholarly knowledge and his unceasing energy. His long-projected book upon old English manor-houses will, we believe, appear in accordance with the notices already issued by Mr. B. T. Batsford.

NEW EFFECTS IN POTTERY.

THE association of Lambeth with potteries dates from the seventeenth century, when some Dutch settlers took up their quarters there. Within a hundred years Holland instead of being the merchant for such articles was the customer of England. The settlers introduced into Lambeth the manufacture of salt-glazed stoneware. It had been known in England from about 1550 in the form of jars and flagons. The earliest artistic effort of the Doulton firm in this ware was on the same lines, and resulted in the familiar "Toby jug." The next step was the production in 1855, under the late Sir Henry Doulton, of terra-cotta garden vases in red and buff clay, which was shortly followed by the application of incised decoration to small articles, on the suggestion of Mr. George Tinworth. The firm exhibited their artistic efforts in 1867. But their "Art Pottery" is considered to date from 1870. In the South Kensington exhibition of 1871 they created something of a sensation, and Queen Victoria purchased half the contents of a large case of "Doulton ware." Their display of art pottery at Vienna two years later marked a still greater advance. In 1877 works were opened at Burslem, Staffordshire, where practically every known variety of china and porcelain and artistic earthenware has been produced. Other works have been established in various parts of the country and in Paris.

During the month of May an exhibition will be held at the New Dudley Gallery, Piccadilly, of "New Effects in Pottery, and works by George Tinworth," being the work of Messrs. Doulton's artists at Lambeth and Burslem. There is a wide difference between the work of the two places. At Lambeth it is on a stoneware basis, while the earthenware and china of Burslem reveal the beauties of flambé and crystalline glazes. The use of a brown body at Lambeth results in low-colour tones, almost sombre when compared with those possible in Staffordshire, where the body is white.

The classification of Chinese porcelain begins with the Sung dynasty, which ruled from A.D. 960 to 1280. The productions of the Primitive period were generally covered with glazes of single colours, either of uniform or mottled tints, and surfaces were both plain and cracked. The pale grey-blue and deep purple Chun-chou wares were remarkable for the brilliance of their *yao-pien*, or "transmutation" mottled tints, due to the varied degree of oxidation of the copper silicates in the glaze. The emulation of these transmutation flambés has been the seemingly unattainable goal of successive generations of potters. The Burslem artists were in their turn fascinated by the problem, and met with most satisfactory success. Their rouge flambé examples at the Dudley Gallery might challenge comparison with the ancient Chinese achievements. Nos. 1, 25 and 223 are on the largest scale and of the most striking character. The first is a round-shaped vase, with wooden stand and cover. On it is a scene, "The Sphinx." The second is intended for use as a flower-pot, and illustrates "The Moors." No. 223 is a large bowl and standard, without any decoration. In shape it suggests a half-closed lotus. Rouge flambé ware is not confined to vases or pots; it includes figures of chicks, rabbits and plaques. Totally different is the effect of the crystalline pieces, which are as modern in principle as the others are ancient. No. 69 is catalogued as imperfect, and suggests the difficulty of all pottery work. In the firing a small crack has appeared underneath the base. One of the fascinations of pottery is the element of chance which attends the process. It is impossible to foretell exactly what will be the effects of the kiln. Two pieces side by side, although identical in every way before baking, may afterwards show great surface difference. This same fact is, of course, likewise a disadvantage, because for inexplicable and unpreventable reasons a piece on which much labour and time have been expended must often be thrown away on account of flaws. Messrs. Doulton could never guarantee to provide an exact replica of any of their exhibits.

The peculiarity of stoneware is that it is only once fired. The decoration is done immediately the object leaves the potter's wheel. Large open kilns are used for the firing. The salt glaze is obtained by throwing common rock salt into them from the top. Mr. John C. L. Sparkes, headmaster of the Lambeth School of Art, organised the "Art Department" of Messrs. Doulton in 1872. The present exhibition reveals the high degree of excellence to which they have attained. There are over two hundred objects in salt-glaze stoneware, and every one of them has been obviously touched by the hand of an artist. An extraordinary variety of glaze, surface and shape is revealed. The decoration is applied in numerous ways. Vase No. 196 suggests the starting-point of this elaborate pottery collection. It is a plain straightforward ware, without any glazing, and of a light brown and white colour. In contrast to it is the large vase No. 257, which shows a dragon crawling up to the top. It is difficult to believe how closely allied all these objects of beauty are to the useful but unornamental drain-pipes, of which they are really the direct developments.

Some visitors may perhaps discover most interest in the terra-cotta panels by Mr. George Tinworth. The largest is 10 feet by 4 feet, and shows the Greek mother giving the shield to her son, with the words, "Either bring this shield back or be brought upon it." Mr. Tinworth rarely looks outside the Scriptures for his inspiration. Indeed, so imbued is he with that source that even in the present Classical subject he has in three places introduced Scripture references. The principal figures are in full relief. Behind are tall trees giving perpendicular divisions. The background shows marching soldiers. The Spartan youth receives the stern parting words of his mother at a moment when about to drive off to the war. There are numerous figures in the carefully arranged panel, and they are all pleasant to look at. Three other smaller panels by Mr. Tinworth are shown. It is evident he has followed the course of architecture, and his work is now as well adapted to Renaissance buildings as it was formerly to Gothic churches.

The Royal Doulton Potteries are a national industry, and the display at the New Dudley Gallery is well fitted to justify their fame. The 500 objects are all worth careful scrutiny. They will be found to bear comparison with any examples of continental workmanship.

SURVEYORS' INSTITUTION.

A PAPER was read by Mr. Cyril H. Donne at the junior meeting of the Surveyors' Institution on Monday, May 7, upon the "Fiscal Burdens on the Land and Taxation of Site Values." A large number attended. The students from the Law Students' Debating Society were invited to attend, and the Society was well represented. The paper was followed by a keen discussion, in which both the law students and the Institute members took part. The reader of the paper replied, and the chairman of the evening (Mr. J. H. Sabin) addressed the meeting. At the conclusion of the evening a special vote of thanks and of appreciation of his services was accorded to Mr. Sydney A. Smith, the retiring hon. sec. Mr. C. H. Dinwiddy was at the annual general meeting, held prior to the ordinary meeting, appointed to succeed Mr. Sydney A. Smith as hon. sec. The dinner will be held on May 16.

FURTHER STRAND IMPROVEMENT.

THE deputation from the Further Strand Improvement committee appointed by the meeting held at the Royal Academy on March 19 was received at Spring Gardens on last Wednesday by the improvements committee of the London County Council.

The deputation consisted of Sir Edward J. Poynter, Bart., P.R.A., president; Lord Claud Hamilton, Sir William Chance, Bart., Sir Thomas Hewitt, K.C., Sir Henry W. Lawrence, Bart., Mr. Reginald Blomfield, A.R.A., Mr. Howard Chatfeild Clarke, representing the Surveyors' Institution; Rev. H. V. Le Bas (Charterhouse), Mr. Ernest Noel (chairman of the Artisans' Dwellings Company), Mr. Hamo Thornycroft, R.A., and Mr. Mark H. Judge, honorary secretary.

Sir Edward J. Poynter handed in the memorial with the plan advocated, and said that Mr. Reginald Blomfield, A.R.A., would speak in support thereof.

Mr. Blomfield, in the course of his address, said:—Mr. Chairman and gentlemen,—I have been requested to lay before you the views of this deputation in regard to the Further Strand Improvement, and though much of what I have to say will be familiar, I think it desirable to recapitulate as briefly as possible what has already happened in regard to this difficult question.

The architectural defects in the scheme as at present settled by the London County Council will be obvious to anyone who stands on the north side of the Strand between St. Mary-le-Strand and St. Clement Danes and looks east and west. (1) By the dip southward the vista is arrested by St. Clement Danes, and the church itself, with the new buildings, is made to block the view of the Law Courts, one of the great public buildings of London, a building, whatever may be thought of its style, of singular picturesqueness, and one which most happily marks the transition from the regular buildings which will presumably occupy the vacant site, to the haphazard jumble of buildings in Fleet Street. (2) The general axis line of the London County Council scheme is not parallel to the axis line of St. Mary-le-Strand, or, so far as can be seen, to anything at all. The result of this is that St. Mary-le-Strand is left out of relation to the general scheme. As, moreover, the frontage line leaves more than half of St. Clement Danes out of account, these two churches will not be brought into touch, and the position of the Gladstone monument will emphasise the absence of any consecutive idea. That fine piece of work will seem to be thrust aside to one corner, surely not the intention of the London County Council when they assigned it the commanding position it now occupies. (3) Looking westward, from a point between St. Clement Danes and the Law Courts, the vista of the Strand to the west of St. Mary-le-Strand will be entirely cut off. At present the top of the Nelson column is clearly visible. The whole of this will be blocked by the buildings shown in the London County Council proposals, because, owing to the eastward dip of their alignment, the spectator will be driven so far south that St. Mary-le-Strand will be made to intercept the view.

Generally, the London County Council proposals appear to us not to have grasped the full possibilities of the case. They limit themselves to the ground between Wellington Street and St. Clement Danes, whereas they should take into consideration the whole space from Wellington Street to the eastern end of the Law Courts. If this is done, a superb architectural vista is assured. The Law Courts are brought into relation with the important new buildings which will occupy the ground to the west. The churches of St. Mary-le-Strand and St. Clement Danes will fall into their places as architectural monuments of great beauty and interest, standing clear in what may be made one of the finest roadways in the world; and thus, at a relatively small cost, London gain architecturally the unearned increment of the money spent in the past upon all these excellent buildings. The scheme advocated by the Further Strand Improvement committee will provide those advantages—advantages which seem to us far to outweigh the estimated financial gain of the London County Council scheme; and we earnestly appeal to you to reconsider the whole matter before coming to an irrevocable, and, in our opinion, a disastrous decision.

After some discussion the chairman of the improvements committee (Mr. Hubbard) said that the Council were with the deputation in the desire to see London made more beautiful, and he assured the deputation that the views they had expressed would receive the earnest consideration of his committee. Sir Edward Poynter thanked the committee for receiving the deputation and for the attention given to their remarks, and the deputation then withdrew.

At a Special Meeting of Shrewsbury Town Council it was reported that the statutory poll of the ratepayers to enable the Town Council to proceed with the Bill in Parliament to carry out an upland water supply at a cost of 183,000*l*. had resulted in the scheme being rejected, the figures being as follows:—Against the scheme, 1,918, for the scheme 1,365; majority against 553. The water committee also reported that the owner of land adjoining the conduit head, which supplies the town with drinking water, had commenced sinking a shaft for coal, and that there was a possibility of the springs being tapped and the supply of water exhausted. In case of this happening arrangements had been made for the town to obtain water from a private supply.

NOTES AND COMMENTS.

For many students of art the exhibition which will be opened to-morrow in the new buildings of the Bibliothèque Nationale will be more interesting than any of the three Salons with their modern works. The Bibliothèque possesses a collection of miniatures, drawings and engravings of the utmost value, and an exhibition of a selection from them will inaugurate the galleries which M. Pascal has created. The authorities have not been satisfied with their own collections. They had recourse to amateurs who have lent invaluable examples of miniatures and other works. The period selected extends from the time of Louis XIV. to the end of the eighteenth century. The art will be mainly of a personal or domestic kind, for the drawings and engravings may have at one time been hung in private apartments or placed in small cabinets. English work will not be ignored, for Frenchmen were able to appreciate the fine engravings after Reynolds and Gainsborough produced in the eighteenth century. Some other products of that century will also be utilised, and there can be no question of the fascination of the exhibition which can be enjoyed from next week.

Local authorities cannot be expected to have any intimate knowledge of the difficulties to be met in carrying out a building contract, and when a claim is made for extras they commonly jump to the conclusion that it is unjust. To avoid trouble to themselves they immediately decide on legal proceedings in some form. What that means to those who have to pay the costs has been exemplified in Ireland. The committee of management of an asylum in Portrane applied to the Local Government Board for authority to raise 2,000*l.* in order to pay the costs of an arbitration. The builders (Messrs. Collen) claimed 10,108*l.* as the balance due to them, and after an exhaustive investigation Sir Thomas Drew, the arbitrator, awarded them the whole sum. In other words, the account was correct and should have been settled promptly. According to the statement presented to the engineering inspector of the Local Government Board on Monday, the arbitrator's fees amounted to 158*l.* 0*s.* 6*d.*; quantity surveyor's fees, 187*l.* 8*s.* 6*d.*; law costs, 421*l.* 9*s.*; architect's fees, 404*l.* 6*s.* 4*d.*; expenses in connection with the arbitration, 258*l.* 7*s.* 6*d.*; Messrs. Patterson & Kempster's fees, 317*l.* 13*s.* 10*d.*; expenses of preparing evidence, &c., 395*l.* 12*s.* 2*d.*; Mr. Mitchell's fees, 200*l.* There are other fees of smaller amount. We suppose the local authorities are now convinced the builders were honest, but the ratepayers will have to pay a heavy sum for the logical process adopted.

Among the numerous French officials who applied themselves to the literature of the arts one of the most distinguished was Emile Molinier, who died in Paris this week in his forty-ninth year. He contributed largely to *L'Art*, and was one of the writers who cooperated in the excellent series of "Les Artistes Célèbres." He was one of the conservators of the Louvre, and was accepted as an undoubted authority on the history of furniture, as well as of Mediæval art. In 1900 he was entrusted with organising the retrospective exhibition of French art in connection with the International Exposition, and he succeeded beyond all anticipation. Reviews of several of his works have appeared in *The Architect.*

The French Government are about to send a party of explorers, under the direction of M. Pelliot, in order to report upon the northern regions of Thibet. Remains are known to exist of numerous ancient cities in that region as well as monuments, all of which would have interest for archæologists. It is expected that much that is now buried in the sand can be exhumed, and a new light may be thrown upon the history of the kingdom. In the seventh century Thibet was so prosperous it was said the king built his palace with cement moistened with the milk of the cow and the yak. There is one guarantee of success in the encouragement offered by the Chinese Mission now in France. Thibet has been for a long period under the sway of China, and recent events may have convinced the people it is better to depend on China than on any European nation. Students of geology, botany and other sciences have visited Thibet, but archæologists have hitherto imagined that it could not offer anything which is worth their attention. The Pelliot Mission may afford revelations.

ILLUSTRATIONS.

NAVAL BARRACKS, CHATHAM: OFFICERS' MESS, CENTRE BLOCK.

COUNCIL SCHOOL FOR THE BOROUGH OF BEXHILL-ON-SEA.

BEXHILL-ON-SEA has advanced more quickly in public favour than the majority of watering-places. But it is incumbent on those who are associated with it as authorities to remember that the interest of a town does not alone depend on the provision which is made for visitors or temporary residents. Kursaal, bandstands and shelters are regarded with suspicion if it is found that other buildings are of an inferior character. It was wise to have selected the picturesque design for a school building which Mr. Burke Downing has prepared, for if carried out as shown in the illustration it would give visitors a satisfactory idea of the arrangements of the town. A simple and dreary school would suggest that the young townsfolk had to suffer while the young strangers were able to enjoy themselves. If through any false notion of economy the design were altered, there can be no question that the town would suffer. A good design may be considered as an organic thing and cannot be mangled without becoming displeasing to the eye.

CATHEDRAL SERIES.—TRURO: THE EAST END, SHOWING REREDOS.

DESIGN FOR A VILLAGE INN, SUSSEX.

RIPON POST OFFICE.

THE Post Office authorities, finding that the old premises were inadequate and inconvenient for a modern post office, the site in North Street—a busy thoroughfare between the railway station and the market-place—was acquired by Mr. M. Slack, of Durham City, who agreed to build and lease the new offices to the postal authorities, having demolished the dilapidated buildings.

The public office—where general business is transacted—is directly entered from the street. Behind it is the sorting office, with an open timber roof, glazed almost halfway down the eaves from the apex; the floor is of wood block and noiseless. The postmen's cloakroom and stock store are entered from a lobby at the far end of the sorting office.

The mail and staff entrance is to the left of the public entrance. The first floor contains the telephones and telegraphic instrument-rooms; a messenger-room adjoins the last. The postmaster's private office and staff retiring-rooms are approached from the same landing as the instrument-rooms. The third floor provides accommodation for the district engineer and his clerical staff.

The heating is partly by hot water and radiators, assisted by open fireplaces. The ventilation consists of fresh-air inlets, and exhausts opening in the staircase hall with an extractor upon the roof. The sorting office has a separate extractor, assisted by ventilating windows.

The lowest storey is built in Knaresborough stone from the Queensland quarry, the middle of thin coursed brickwork; the attic storey is within a Mansard roof covered with Buttermere slates, and having an overhanging cornice at the eaves.

The architect is Mr. John G. Burrell, Market Place Chambers, Durham, who has built many post offices. The principal contractors are Messrs. Barker Brothers, Hampsthwaite.

FENESTRATION.*

(Concluded from last week.)

BEFORE we proceed to follow the treatment of windows in the great period of the English Renaissance it will help us to glance for a moment at the architecture of the country in which this great revolution was proceeding. Throughout Italy, during the fifteenth century, vast palaces were being built by a people full of character and embued with a love for the fine arts based on the rich inheritance of Imperial Rome, each city or state developing an individual style which reflected the life of the people. It is quite impossible here to enter fully into the various differences of these famous buildings, and two examples must suffice to illustrate our subject.

The palaces at Florence are distinguished by their bold, massive character and the extreme plainness of the lower storey. Taking, as an instance, the Ricardi Palace (1430), we find that up to a height of 11 metres from the ground there are, excepting the doorways, only very small rectangular barred openings, and the real window treatment does not begin till the first floor. The desire for protection is obvious in this arrangement, and the architect (Michelozzo) seized the opportunity of contrasting a massive rusticated lower stage with a double row of delicate and refined windows above. The design of these semicircular-headed windows, divided by slender shafts under a single arch, retains many details of the Mediæval Tuscan style, and helps to link the chain of tradition with Rome. The proportion of window opening to wall-surface is interesting and works out at about one of window to thirteen of wall, and gives a remarkable sense of solidity. The Strozzi Palace, where the design is very similar, gives a proportion of one in twenty-one.

These examples may be compared with the Vendramini Palace at Venice, built by Lombardo in 1481, fifty years after the Ricardi Palace of Florence. Here the difference in the general treatment is particularly marked in the number and arrangement of the windows. Individually the double lights beneath a single semicircular arch are much the same in character, but instead of being isolated openings pierced in the great mass of stone, they are connected throughout the front by pillars and pilasters and a wealth of ornament which gives an impression of lightness and grace entirely absent from the stern, forbidding façades of the Early Florentine builders. The proportion here of window to wall is one to three.

These two instances will be sufficient for the purpose of illustrating the effect of local conditions on fenestration. The Florentine palaces were built in narrow streets, and liable to sudden attacks, hence the protective lower storey and the principal rooms on the first floor. They were also built, as a rule, round a spacious courtyard, from which a great deal of light was obtained, so it was unnecessary to have a multiplication of windows towards the streets. Again, they were built on a solid foundation of rock.

The Venetian palaces were built facing waterways, and unexpected attacks were improbable. Thus we rarely find that absence of windows on the lower storey, and the general plan did not, as a rule, include a central court. The principal windows faced the canals, and, as the foundation was a matter of great difficulty and expense, the spreading out of the plan (except in the very largest buildings) was avoided, and the great proportion of opening to solid wall diminished the weight, and was a very important and determining factor in the design of the fenestration. In Florence the whole family, including married sons and daughters, lived in the palaces, which in those turbulent times at the end of the fifteenth century were practically fortresses, and the civic life of a free and factious Republic is represented by the heavy walls and narrow windows of Florentine dwelling-places; while a more sumptuous and secure mode of life finds expression in the graceful buildings, with their many-balconied windows, which overhang the Grand Canal of Venice, exactly fitted to an oligarchy sure of its own authority and loved of its people, and representing the centre of European commerce.

The introduction into England not only of a foreign style, but of foreign workmen, has been so well described by Mr. Blomfield and Mr. Gotch and other writers on the Renaissance that it is quite unnecessary to enter into it here, and every student of architectural history is familiar with the wonderful revolution in design which is inseparably connected with the name of Inigo Jones.

The Banqueting-House in Whitehall, finished in 1622, marks the beginning of a new era in English architecture. As has been pointed out, one of the characteristics of the great Tudor buildings was a long and low proportion produced by strongly-marked horizontal lines of windows with no studied architectural effect. But in the fragment of the palace in Whitehall we are face to face with a great and successful attempt to create a building full of the subtle proportions and use of purely architectural forms which Inigo Jones had studied in Italy under the influence of the great architects of the Renaissance. The window treatment is of exceptional interest. The proportion of voids and solids is well balanced, and works out at about one to three and three-quarters—that is to say, only slightly less window space than in the Vendramini Palace at Venice. But the façade of the Banqueting-House gives a far greater sense of dignity and strength on account of the plainer treatment of the wall surfaces between the windows, only broken by the columns and pilasters without the panelling and more restless ornament of the Venetian example. The proportions of the windows themselves work out at rather under two squares in height, which is somewhat wider than is usual in most of the Italian square-headed lights, which are generally about twice as high as the width—for example, the Palazzo Zecca at Venice, the Palazzo Uggioni at Florence and the Palazzo and Villa Farnese at Rome, to which latter building it bears some resemblance. The fenestration has been criticised as giving an effect of two storeys to a building which in reality was one lofty room. But the Banqueting-Hall was only a part of an immense scheme in which, if it had been completed, this fragment would have balanced another wing of the same proportion, but containing two floors of State apartments. The great difficulty of adapting this new architecture to the requirements of the day was felt from the first. A style of building which depended for its effect on well-judged proportion and a systematic arrangement of windows presented immense difficulties to the architects of the Late Tudor buildings, whose art was, to all intents and purposes, unconscious and in no way scientific. But architecture had suddenly become a science as well as an art—a science of proportion, and a knowledge of the great buildings in Italy was essential for those who embarked on the new undertaking. The older English tradition of planning survived for a much longer period, but the attempt to combine it with the hard-and-fast rules of Classical architecture eventually produced the main features of the Italian house plan.

In most of the great domestic buildings in England of the Tudor period the essentially English characteristic was the plan, and following as a natural result with an indigenous style, the internal arrangements found an expression on the outside—in short, the buildings were designed from the inside to the outside. But with this new and wonderful architecture borrowed from a distant country, this was reversed, and too often everything was sacrificed to the proportion and treatment of the façade. Thus we find English country houses following in all respects the villas and palaces of Italy, buildings designed by Italians for Italy, which were in many ways quite unsuitable for our northern climate.

One of the most thoughtful and capable of the French architects of the Early Renaissance has left behind him in his writings a strong protest against the indiscriminate use of the Italian forms in the buildings of his time. Philibert de l'Orme, in his book on Architecture, published in Paris in 1567, gives advice to his readers which is more than ever applicable at the present day. He says:—"The ornaments and decorations of façades should be appropriate and correspond with the interior of the building; the divisions of halls and rooms and the openings of windows and casements should not produce a repulsive effect on the exterior of the building." By this I understand him to mean that, though the building should be designed from the inside, it is necessary to have a very distinct and well-balanced scheme for the exterior. "Truly," he continues, "it is far more honourable and useful to know how to plan a habitation well, and render it healthy, than how to cover it with embellishments without reason." Although it is open to question whether De l'Orme really grasped the true spirit of Classical architecture, as Mr. Blomfield says in his essay on this architect, the feelings which prompted the above extract from his writings were those of a man with the courage of his opinions in the face of the vast change in ideas with which, perhaps unconsciously, he was not altogether in sympathy. These defects are chiefly noticeable in the more ambitious buildings of the eighteenth century, but in the more modest domestic work we find evidence of the growth of a distinctly English adaptation of the Renaissance, and the window treatment of the quiet red-brick fronts, which are to be found almost everywhere, is altogether satisfactory in its proportion and its sense of fitness for the purpose.

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* A paper by Mr. Walter Cave, read before the Architectural Association on April 27.

The effect of this revolution in architecture on the fenestration of our English buildings was very marked; for a long time the mullion and transom was still used and with good effect—for instance, at the Ashmolean at Oxford and Wolseley Palace at Winchester. But the sash-window, divided by the heavy bars, became the accepted type to the purist, and the difficulties of the adaptation of the Roman architecture produced much defective lighting of interiors. Such defects as the inevitably dark windows under the vast porticoes at Prior Park, near Bath, and Amesbury Abbey, Wiltshire, were inseparable from the use of a huge order, magnificent though the effect might be from the outside. The use of a colossal order running up the entire height of a façade would be dignified enough in itself if there was only one lofty room inside the full height of the building, but when there are several floors to be lit either the windows become out of proportion with the order, or if the windows are treated on the same colossal scale they must be cut up by the floors which cross them, producing anything but a pleasing effect from the inside and outside. This is the inevitable result of the neglect of true principles, and the adoption, without knowledge, of a style of architecture out of harmony with practical requirement. And in the Mansion House, and, later still, the Royal Institution in Albemarle Street (already referred to) show the difficulties of these ambitious attempts. The use of blank windows to produce symmetry in a design cannot well be defended, though adopted in many fine architectural compositions. Again, with a regular range of windows in small houses, it is inevitable that, without the greatest skill in planning, some rooms must be too dark and some too light.

To return to a more detailed account of the window treatment of the seventeenth and eighteenth centuries, I propose to take two typical and familiar buildings as representing the leading tendencies of these times, and to give a short analysis of their fenestration. After the Banqueting-House in Whitehall, which clearly marks the introduction of an entirely new element in design (in 1622), I propose next to take the east, or garden, front of Hampton Court, begun by Wren in 1689. The internal arrangement is at once seen from the elevation; the ground-floor rooms are not of first-rate importance, and the windows are subordinated to the great range of state chambers on the first floor, the "piano nobile" of the Italian palaces. These lofty windows have a proportion which is extremely dignified, and the divisions of the sash-bars work out at 20 inches high to 14 inches wide. The window openings, 13 feet high to 5 feet wide—a far narrower proportion than is usual in Italy, and one that Wren was particularly fond of (as, for instance, in the Orangery at Kensington Palace, where the end square windows are 5 feet wide by 13 feet 6 inches high)—roughly speaking, two and a half times the width. The circular windows give a most interesting note to the façades at Hampton Court, and the division of the bars is most ingenious; above the secondary cornice the windows are practically square, and the sash-bar divisions of the same proportion, but on a much smaller scale than those below. It would seem that Wren's idea was to produce an effect of height, and at the same time to indicate the relative importance of the rooms within. The circular windows in the Fountain Court are much more elaborately treated, and are really windows of small rooms, but on the external faces of the façades these small rooms do not always exist, and some of the windows are dummies and only occur at intervals to help the whole design and to break up the wide spaces above the window-heads of the state chambers occupied by the deep-coved ceilings inside. At Greenwich Hospital Wren has combined the circular and rectangular form in one composition with a very pleasing result.

One of the great difficulties of dealing with a Classic order on a lofty façade is that the columns and entablature become so large as to be unmanageable unless the upper floor windows are put above the cornice, and if these are not treated as dormers behind a parapet, the windows are liable to be too small, or, if of the proper size to light the rooms, they ruin the whole proportion. Wren has avoided this by introducing a complete order only as a central incident in the design, and subordinated it to the main crowning cornice and balustrade, which gives ample room for the upper-floor windows. It is by expedients of this description that Wren showed his originality and his mastery over the forms of Renaissance architecture. His power of adapting it to his requirements made it a living art in his hands, and one that was essentially English. His early training, as Mr. Blomfield points out, was rather French than Italian, but throughout his career and his various styles his strong individuality is clearly apparent. His work shows more independence of the accepted architectural forms than any of his contemporaries, but it is noticeable that, as his life and work advanced, he approached more nearly to the Italian manner, as exemplified by Inigo Jones.

The next example, which is instructive as illustrating a different form of window, is the Horse Guards, in Whitehall. We find here that the whole composition is more broken up than is usual in a Palladian design by the varied heights and planes of different parts of the building. The main part of the building was designed by Kent in 1742, with the exception of the attic storey on each angle of the central part and the clock turret, which were added by Vardy some ten years after his death. The composite windows under a single semicircular arch are here used with considerable effect, and give the necessary importance to the larger rooms on the first floor, while the second floor is entirely subordinated and the window openings kept as plain as possible. These rooms are really treated as a mezzanine floor, and it is interesting to compare the arrangement with the Home Office on the south side of the parade ground, also probably by Kent, where the mezzanine windows are omitted in the front and only show on the ends. The result is that a fine solid wall effect is produced with a complete entablature, but at the sacrifice of the interior lighting to these rooms; this is again repeated on the floors above. This plan of disguising the real arrangement of the interior can never be considered as satisfactory, and an angle view, where both faces can be seen simultaneously, gives an unpleasant sensation of something wrong, and the feeling that the interior has been sacrificed to the exterior. In the main façade of the Horse Guards the eye is at once satisfied, but on the end wings the same defect is seen, and the frieze and architrave of the cornice have to be stopped short on the return ends to allow for the windows on the mezzanine floors.

The proportions of the windows themselves are interesting and their relative value to the solid wall surface represents one to three and a half, or rather more window than Inigo Jones's Banqueting-Hall, and rather less than the Vendramini Palace at Venice. But from the greater variety of the shape of the openings the effect produced is very different. The combination of small and large windows is evidently intended to emphasise certain rooms, and in the whole of the fenestration of the Horse Guards and the Home Office Kent made an attempt to give an effect of size to buildings which did not really contain any fine rooms, and, though he certainly produced a very pleasing building, the fact that the exterior does not give a true indication of the internal arrangements, as Mr. Blomfield says, savours of affectation.

I began this paper by saying that the subject of fenestration was practically a history of architecture, and with this last period of the English Renaissance the history of architecture as a living art can be said to cease. All nineteenth-century architecture was a series of revivals, producing little or nothing that was new, and adding no fresh chapter to our subject. We have seen that in all the great periods architecture was indicative of the life and manners of the people. The Egyptians were a theocratic race, and their temples and courts were closed in with the chief ornamentation inside, and dimly lit to suit their religious mysteries. The Greeks were typically republican and their chief effects were reserved for the exterior where all might see. The Romans, true monarchists, built princely palaces, and the plans of their buildings show a degree of luxury and refinement never approached before or since. The Italians of the Renaissance erected palaces which were typical of the life of the time, and in the Gothic period of our own country the great monastic buildings were just as truly characteristic of the life of the people.

In all these great epochs one great principle governed the buildings, namely, they were sincerely designed to suit their purpose as the first consideration. The art may be said to have been an unconscious one—it strove after no effects which were not legitimate, and, though the growth of each detail may be traced backwards to a foundation on something gone before, it was only adopted to suit a requirement of the day, and became inseparably a part of the style. With the facility of travel, the spread of knowledge and rise of individualism, foreign elements in design appeared, which were at first imperfectly assimilated, and, as we have seen, in later times produced insincerity in architecture. Thus one of the great principles was violated, and the lesson to be learnt from the study of our subject to-night is, I think, briefly this :—

Let the plan of a building be fully considered and designed from the first with due regard not only for the requirements but for the exterior, and let the window treatment bear on the exterior its proper relation to the internal arrangements. If the plan is faithfully designed to meet the given conditions it must of necessity reflect the life and habits of those for whom it is intended, and if the window treatment is also faithfully designed to suit the rooms the result will be sincerity in the fenestration.

Mr. E. Prioleau Warren, proposing a vote of thanks to Mr. Cave, said the subject of the paper was of the highest importance to architects, because the treatment of windows in a building had a general effect on the façade. Mr. Cave had taken them a very long distance from the Egyptian work down to the present day. The history of windows showed the gradual striving for learning and the appreciation of light in buildings, and that of course connoted other things. The desire for light was not natural in primitive civilisation when people did not read, but as the spread of learning grew, so it would be seen that quite chronologically the desire for greater window area increased also. Another factor was the decrease in the need of defensive necessity. It was obvious that in a building which was dependent upon its walls for the exclusion of enemies and their devices the windows must be reduced to a minimum. The church was often deliberately made a sanctuary and fortress. It was frequently assaulted and defended in time of war, and yet in some of the earlier churches in England they would find that the windows, small as they were in troublous times, were larger than those of a succeeding period. It was hard to account for this fact, though one cause may have been the development of European architecture from an Eastern origin. Intense sunlight was unendurable in the East, and the openings in buildings were therefore small, and the architecture, which had been adopted without discrimination, exhibited the same feature, though this would not fully account for the extreme smallness of the windows. It was interesting to observe that as architecture progressed the window greatly increased in size and in beauty of treatment, and they might say the change was the unconscious acceptance of a very important architectural feature. The speaker thought that probably after the fourteenth century the advance of stained glass and the desire for handsomer pictures was the chief influence on the form of the window, and with the introduction of life-sized figures the area of glass was increased at the expense of the wall area of the church. In England, with their comfortable, domestic, practical sense, they had not paid very much attention to the evolution of a feature which in other countries had attracted considerable attention, and that was the dormer window. There were some charming examples, but, generally speaking, in England up to the end of the eighteenth century the dormer window was soberly and plainly treated, whereas in France, Belgium, Holland and Germany it had been developed and elaborated. In England and the Colonies there was more or less an intense desire for the sash window, and in its common treatment the sash window always seemed to lack distinction.

Mr. Alan Potter seconded the vote of thanks.

SOCIETY OF ARCHITECTS.

On the occasion of the visit to the Ilford Crematorium on the 5th inst. Mr. Albert C. Freeman delivered the following address :—

This crematorium was erected by the Corporation of the City of London in 1905 from the design of the late Mr. D. J. Ross, M.Inst.C.E. It is constructed principally of stone, the external walls being faced with Kentish rag, having Portland stone dressings ; the roofs are covered with Broseley tiles. The design, which is on Gothic lines, is in keeping with the other chapels in the cemetery. The total cost of this structure, including the furnace and catafalque, was about 7,000*l*. The chapel is 24 feet wide and 25 feet in length (600 superficial feet). It is not provided with seating. I consider every chapel should have a minimum floor area of 1,200 feet, which will allow of the provision of a small number of seats, in addition to a reading-desk for the minister.

The catafalque here is similar in design to those in the Crematoria at Hull, Golden Green and elsewhere. It is not a design or principle of construction that I should advocate. I certainly think that, considering the catafalque is the principal feature of the chapel, it should be of an artistic design ; the opening into the cremating chamber should also be of a design in keeping with the purpose for which it is adapted. In the majority of the early crematoria erected in this country, great indifference has been displayed in regard to the catafalque, and there has been no attempt at making them architectural features. This may possibly be owing to lack of knowledge in the design, it being a subject so little known or understood.

In the crematoria at Bradford and Sheffield the respective architects have given some amount of thought to the design of the catafalque, resulting in two fine examples—illustrations of these I will show you. The one at Sheffield is executed in bronze, the work having been carried out by the Broomsgrove Guild of Applied Art. The catafalque in general use measures 12 feet long, 3 feet 8 inches wide, and is 4 feet high.

When a cremation is to be performed the coffin is brought into the chapel and placed upon the catafalque. When the committal sentence in the service is reached, the coffin passes noiselessly, by means of an invisible mechanical arrangement into the cremating chamber. The space occupied by the carriage in the cremating chamber—directly opposite the catafalque—is draped with black velvet, so that the chamber is at no time visible to the mourners. In many of the crematoria an intermediate chamber is provided, but up to the present a satisfactory arrangement in this direction has not been planned.

The cremating chamber, at the rear of the chapel, is 37 feet long and 30 feet wide ; it is of sufficient capacity to admit of two furnaces being erected ; only one is at present fixed. A basement is provided under this chamber to receive the lower part of the furnace, and for the purposes of stoking and starting the apparatus.

The furnace is of the regenerative type, designed by the late Mr. Henry Simon. It was fixed by Messrs. Simon, Ltd., of Manchester, and consists of three chambers, the two lower of which are surrounded by air passages. The lower chamber contains a coke fire, and the upper or cremating one is that in which the body is reduced to ashes. The fire is lit some time before the apparatus is to be used, and is supplied with air in the usual way. Before the introduction of the body the air supply to the coke fire is greatly restricted, and after the body has been put in the furnace a separate supply of heated air is introduced to the hot gases from the fire. Owing to the restricted air supply under the fire the product of combustion is largely carbonic oxide, which immediately on the addition of hot air burns into carbonic acid. The incinerating chamber is thus filled with gas of an intensity oxidising character in a state of incandescence. There is no smoke and no visible flame before the body is introduced. The process occupies about one hour, at the end of which time there remains only the residue of the bones, consisting of grey pumice-like fragments. As the body is reduced to ashes they fall through the grid into the chamber below. At the completion of the operation they are swept by an asbestos brush into the urn. It will be seen that inspection holes are provided at the rear of the two upper chambers so that the engineer can see the progress of incineration.

The chimney here is 80 feet high ; it is so constructed that the lower portion of the shaft may be removed without affecting the whole of the shaft or the tower. Above the pilot fire the shaft is carried upon rolled steel joists, built into the walls of the tower. The pilot fire here is of a more elaborate design than that to be found in the early crematoria in this country ; it is provided to cause a draught, and not, as is supposed, to destroy unburned gases given off from the body. I cannot say that I consider this special design of pilot fire (which is necessarily expensive) essential, inasmuch as all smoke and gases are consumed, and nothing but carbonoxides and dioxides are mixed with the atmosphere.

I am at present working upon a scheme whereby the chimney may be dispensed with ; should I be successful one of the most difficult features to treat in connection with these buildings will be removed and a considerable saving made in the cost.

In connection with the furnace there are one or two points I would like to bring before your notice. The first is the construction of a clear space in the floor around the furnace; with this provision any expansion or contraction which takes place will in no way affect the general structure. The furnace should in every case stand 10 feet from the wall of the chapel, this being necessary for transporting the coffin from the catafalque to the furnace.

In conclusion, I think you will agree with me that throughout the whole process of cremation there is absolutely nothing to offend the senses, and there is nothing which is of an irreverent nature.

WINCHESTER CATHEDRAL.

THE annual meeting of the Hampshire Field Club and Archæological Society was held at the Church House, Wolvesey, Winchester, on the 3rd inst.

Prior to the business meeting, says the *Hampshire Advertiser*, the company visited the cathedral for the purpose of hearing an account of the present work of repairing the fabric, an inspection of which was afterwards made. The party were received at the west door by Canon Braithwaite, who extended a welcome to those present. Entering the building in company with Mr. T. G. Jackson (consulting architect) and Mr. J. B. Colson and Mr. N. C. H. Nisbett (cathedral architects), the company proceeded to the retro-choir—which is now a mass of timber supports—and assembled around three large plans showing the structure of the fabric now in course of preservation. These plans at once conveyed to the mind the exact nature of the defects, and were explained in detail by Mr. Jackson. He described the formation of the strata at the east end, and pointed out that the top soil was of comparatively modern formation, for when the water-level was reached cherry stones and apple pips and pieces of Roman pottery were discovered, showing that centuries ago the water-level must have been lower than it now was. Since then the surface of the valley and the bed of the river had risen together with the water-level, and the soil was now 3 or 4 feet higher. In order to obtain a good foundation the builders of the cathedral should have gone below the peat to the hard gravel bed, which rose a great deal towards the west end, which showed no sign of the mischief found at the east end. When the builders got to the bog and came to the water they were in a fix, not having the modern appliances of a steam pump and quick-setting cement, and consequently used the marly bed, which was fairly firm, and the best they could do. Not knowing how to get below the water, they laid the foundations on the trunks of trees filled in with chalk and smaller trees. Sometimes the distance between the two layers was 18 inches, and this was filled in with chalk. Some of the trees were quite decayed and others had stood extraordinarily well considering that most were of beech and not oak. When the trees decayed the marl bed gave way, and the cathedral sank about 2 feet. They intended now to lay the foundation on the gravel bed, which would make a capital foundation. They were able to get to within 2 feet of the gravel, and when the last 2 feet, which were of peat, were reached the water rose to 14 feet. As there was a danger of the silt being drawn away from the foundation by the steam pump the employment of divers was resorted to, and these were now engaged in scooping out the 2 feet of peat and filling up the cavity with sacks of cement in layers grouted with cement. This would keep the water down, and after the water above had been pumped out the ordinary workman would be able to underpin the foundations. The new foundations would stand in water, and would get harder and harder, and the cathedral would then for the first time in its existence be on a rock. In addition to this there was another disruption in the building owing to the thrust of the vaulting, which Mr. Jackson explained. The buttresses of De Lucy's building, erected in 1206, were not at all beyond what they should have been, and were just the bare margin of safety. Had the ground been firm they might possibly have sufficed, but being built on spongy ground which gave way, the whole of the piers had gone down. The thrust on the piers had caused a crack to appear, and the pier had gone out of the upright. The cracks in the roof had reopened, and the thrust had at once to be arrested. The alternative was to enlarge the outside buttresses, which would have involved going down to a great depth. To alter the buttresses appeared to him to interfere with the architectural feature of the building outside, and as the alternative of two evils he suggested ties being used. They would be painted grey, and not conspicuous. A thing of that kind when it exposed its reason and showed its utility was a blemish which he thought the eye condoned and which would not offend. There was hardly a church in Italy which was not held up by iron ties, and which he thought in this case would not attract attention.

Specimens of peat and of the bogs dug from beneath the foundations were inspected with interest, after which thanks were accorded to Mr. Jackson for his lucid explanation. The company then left the interior of the building to inspect the external work at the east end. Here the operations were watched with interest, particular attention being paid to the diver, who descended and ascended for the benefit of the company, the more enthusiastic of whom used the camera probably with good results. A visit was paid to the crypt, and subsequently the architectural features of the fabric were explained by Mr. J. B. Colson, who humorously remarked that it was untrue that the building was tottering to its foundations from end to end, as had been stated. He pointed out that the gravel bed at the west end was 27 feet below the surface, but dropped to 16 feet at the east end.

The Rev. G. W. Minns thanked Mr. Colson for his explanation, and complimented the Dean and Chapter on calling in Mr. Jackson for advice. Under the supervision of Messrs. Colson and Nisbett, who were acquainted with every stone in the cathedral, they felt the work would be efficiently and properly done. They quite sympathised with the Dean and Chapter in the difficulties they had to contend with, and he hoped they might have an opportunity later on of helping them.

WATER SUPPLY FOR ESTATES, INSTITUTIONS, &c.

By F. J. Warden-Stevens, A.M.I.M.E.

THE arrangements for the water supply, storage and maintenance of pressure here described are to some extent a departure from the general practice and offer considerable advantages. This description should therefore be of interest to architects who are concerned with residential flat buildings and estates as well as public institutions.

The buildings under consideration required a supply of water for some 2,000 persons, apart from the general supply for boilers, laundry use, flushing, &c.

The supply has been divided into three sections, pure, subsoil and fire. The pure supply is obtained from deep wells, which consist of borings 8 inches in diameter and 300 feet deep; the supply for flushing, &c., is from a boring 12 inches in diameter and 40 feet deep; and the supply required in the event of fire can be arranged from either source.

In connection with an independent water supply it was necessary to provide water storage to at least the extent of 20,000 gallons, and to be of real use for fire purposes, part of this storage had to be at a pressure equivalent to a head of at least 100 feet. Now, owing to the very unsatisfactory nature of the foundations, the writer, after careful consideration, decided instead of building a water tower to a height necessary for this pressure to have two steel drums, each having a capacity of 2,650 cubic feet and each to be designed to hold 8,000 gallons of water, leaving a space above for an equal volume of air. One of these drums was designed for a working pressure of 30 lbs. per square inch and the other for 60 lbs. per square inch, equal to 69 and 138 feet head of water respectively. Each drum is 14 feet in diameter by 20 feet high, and is supported round the outer circumference on iron columns resting on a concrete base. To the top of each drum is fixed an air-pipe, and to the bottom there are attached draw-off connections. The drum for 30 lbs. pressure is connected to the ordinary pure supply mains and the 60 lbs. pressure drum to the fire service. In working, when the requisite quantity of water is stored and the pressure is lower than it should be, compressed air is delivered to the drum to raise the pressure to 30 or 60 lbs., as the case may be. The air is then acting as a cushion, the pressure falls slightly as water is drawn and the air is again compressed as water is pumped in. The result of this arrangement in general use is that compressed air is added only occasionally to make up for leakage or absorption. In the event of it being required to keep up the pressure to the full amount while a supply is being drawn from the drum, the air compressors are brought into use, should the demand for water greatly exceed that which can be supplied by the wells. The top of each drum is arranged for the fixing of an open tank without difficulty, and on the high-pressure drum a tank holding 8,000 gallons has been provided, the curved top of the drum forming the bottom of the open tank. This tank can be used as a reservoir for the condensing water in connection with the engines, and from it is taken also the low-pressure subsoil supply for flushing purposes, &c.

The distribution of the supply is carried out by three distinct arrangements of mains. The supply referred to as pure is kept at a maximum pressure of 30 lbs. per square inch, as already mentioned in connection with the storage. The mains consist of pipes 3 inches in diameter, laid from a deep well in the engineering works along the east and west corridors to another deep well at the extreme west of the buildings, there being branch pipes of 2-inch diameter along the north corridor. From these mains a direct supply is obtained in a few instances on the ground floor, such as the laundry, but in most cases the services are from tanks fixed in the roofs.

By lowering the pressure on the pure water mains at times of heavy demand in the laundry, &c., the wells can supply this direct and not fill the upper tanks, which are dealt with when the demand is less. This enables the wells to be kept in use for a long period at a moderate output, which increases the economy of working.

The flushing, &c., water is distributed by pipes of 3 inches diameter from the works laid along the east corridor, whence it branches north and west with pipes 2 inches in diameter. This supply is intended to serve the automatic flushing tanks in connection with the sewers and the ground-floor latrines, &c. No open taps are connected, so that this water could not be used for drinking purposes. The object of this supply was to relieve the deep wells of a large and steady demand for water which need not be pure and for which a supply could be made available from a comparatively shallow well.

The mains for the fire service are all of one size, being 4 inches in diameter. From these mains are rising submains up every staircase, to which hydrants are fixed. In all cases services for any other purpose have been disconnected from the fire mains and connected to the pure or subsoil mains as required. The pressure in the fire mains, as mentioned, is kept at equivalent to 138 feet head, and as the highest building is 60 feet, the roofs can easily be reached from the ground level by means of the hydrants, allowing a large margin for fall of pressure in the hydrants and pipes.

In arranging for carrying out this scheme of reconstruction it was found that a very considerable length of pipes, a large portion being useless, were buried in the corridors and yards, and it was considered advisable to arrange to have practically all main pipes in trenches where they would be accessible. As a result, trenches 7 feet wide and 3 feet deep were constructed in the east and west corridors of the buildings, a length of 384 feet; branching from these along the north corridor, trenches 3 feet 6 inches wide and 3 feet deep, a length of 170 feet.

They are constructed of coke breeze concrete arches, supported in the centre in the case of the larger trenches by steel girders running the whole length of the corridors, and carried by short columns. Also at every alternate 9 feet of the length removable covers are provided to give access to the trenches. The opening when the covers are removed gives 9 feet clear, so that any ordinary length of pipe may be lowered into the trenches. The roof or covering of these trenches or subways forms the floor of the corridor.

The construction of these trenches was a matter of some difficulty, as the traffic in the corridors could not be stopped, and during the removal of the drains, hot and cold-water and steam-pipes, the services to the premises were maintained. It is to be noted that each of the seven principal blocks abut on the corridors, and subsidiary trenches were constructed for the reception of service pipes where necessary.

These water-supply arrangements were adopted in lieu of an old system of one supply for all purposes, by which, for instance, should a fire occur when the demand for water was high for other purposes, the pressure would be insufficient, and water had to be paid for from the water company at the same rate to flush the drains, &c., as for drinking purposes. Meters are connected to the mains to measure the quantity used on the pure and subsoil supply, and the water company's high-pressure connection is at present maintained both to the fire and pure water supply and the low pressure to the pure and subsoil water only. The pure water may be used in the subsoil mains at any time if needed, and the fire and pure water services may be interconnected.

THE VIBRATION OF TALL BUILDINGS.

THERE is no single feature of last week's catastrophe in California of higher technical interest, says the *Engineering Record*, than the resistance of structures of the best modern design to the severe earthquakes which brought havoc to a strip of coast several hundred miles long. At Leland Stanford Junior University some of the best of the concrete buildings, notably those constructed by Mr. E. L. Ransome, were uninjured, while other structures were more or less damaged. This is not at all surprising, because some of the buildings that failed were architecturally unsuited to resist a severe shaking, while among those which were uninjured are buildings designed specially to withstand earthquakes. It is unjust to judge the value of various building materials by the effect of the shocks of last week unless attention is paid at the same time to the designs of the structures in which they were used. A good material may be used in such a way that it offers little resistance to fire and earthquake, while skilful design may produce far better results, considered from the point of view of stability alone, with building materials of a relatively lower character. It is on this account that the information to be gained from the present condition of masonry structures, particularly those of concrete, can be accepted only after the closest scrutiny.

While it is impossible to form now any accurate judgment of the detailed resistance offered to earthquakes by concrete structures, the admirable manner in which steel-cage construction of a good character withstood the earthquakes is manifest. The most conspicuous structure of this type in the city, the Spreckels Building, where the "Call" had some of its offices, was injured only by fire. This building was a remarkable structure, and the manner in which it withstood the shocks is most gratifying. The same is true of the condition of other steel-cage buildings of less height but greater area. Many of these were specially designed to resist earthquakes, and the fact that in some cases they were supported on material not particularly favourable for office building sites makes their recent resistance to violent vibration all the more remarkable.

Accurate observations of the vibrations of tall buildings are extremely rare. Among the few of them mention may be made of those by Mr. W. L. Stebbings in the Monadnock Block and Pontiac Building, of Chicago, during a high windstorm about eight years ago. His first observation was in the Monadnock Block and was made by a plumb line in the stair-well reaching from the sixteenth down to the second floor. After the plumb line was released from its initial twist sufficiently to allow the bob to move under the direct tension on the string, the bob described a circle approximately one-half inch in diameter while moving under the swaying motion of the building caused by the wind. This observation was made with the point of the plumb bob about one-sixteenth of an inch above a sheet of paper on a drawing-board. When this observation was repeated in the south stair-well of the same building from the seventeenth floor the point of the bob described an elliptical path with an axis of seven-sixteenths of an inch in one direction and three-eighths of an inch at right angles to the first. The next observation of precisely the same character was made in the Pontiac Building with the plumb line extending from the fourteenth down to the first floor. The elliptical path of the point of the plumb bob in this case had axes of three-eighths and one-fourth inch. Mr. Stebbings was of the opinion that this building was protected by the adjoining Elsworth Building, since it did not receive the full force of the wind.

It is, of course, a matter of doubt whether the motion of the plumb bob in such a case indicates the real motion of the building in its true magnitude, although it certainly would not oscillate if the building had no motion. Mr. Stebbings realised that this might be the case, and therefore made transit observations from a completely protected position on the north-west and south-west corners of the Monadnock Block. At the north-west corner he found an extreme vibration of one-fourth of an inch, and one-half an inch at the south-west corner. During the progress of these observations the velocity of the wind, as gauged by the usual conventional methods, varied from 60 to 70 miles per hour, and at least a dozen waggons were overturned at the south-east corner of the building during the day.

These tests cannot be considered conclusive as to the actual motion described by the buildings under the action of the winds to which they were subjected, for the path described by the plumb bob is probably not just that traversed by the upper extremity of the line to which it was attached. Yet inasmuch as the observations extended over a considerable period of time, it is certain that had the upper parts of the buildings any great amount of motion the plumb bob would have described a correspondingly increased path. The fact that the latter was small may be taken as showing that the wind produced a series of correspondingly small effects, and this conclusion is confirmed by the observations with the transit.

The vibrations due to the earthquake were much greater, sufficient to toss people about in the rooms of some of the well-built hotels. Unfortunately it takes very little jarring of a platform to produce this effect. A shaking of but a very few inches on the movable stairs at summer resorts makes their ascent and descent a very trying feat. It is impossible, therefore, to estimate from the statements of people who were in San Francisco during the earthquakes what was the amplitude of vibration of the important buildings. The pendulum of the seismograph of Professor George Davidson, Hon.M.Am.Soc.C.E., was thrown off the register, indicating that the motion was very violent. On the other hand, the enormous masses of the larger office buildings probably operated to keep the vibration in them below that in the rows of flimsy tenement houses on the unstable filled ground to the east of them. While opinions concerning details of design cannot be formed in the light of present knowledge, it is certain that the steel-cage framing used in the better class of buildings has demonstrated its suitability for a city exposed to earth tremors and shocks. The problems of wall and floor construction alone are debatable.

THAMES BRIDGES.

An interesting pamphlet by Mr. Maurice Fitzmaurice, the chief engineer, entitled, "Notes on the Acquisition, Construction, Works and Maintenance of the County Bridges, Tunnels, Ferry, Embankments, and River Prevention of Floods Works in the County of London, together with Descriptive and Explanatory Notes on the Structure, Works and other Technical Matters," has been issued by the London County Council. The following is from the introduction :—

From very early times the provision and maintenance of bridges has been considered a matter of the highest public importance ; indeed, the expense of maintaining bridges was part of that *trinoda necessitas* to which, by ancient law, every man's estate was subject. The construction of bridges was, of old, sometimes performed by individuals as a commendable work of charity, but more generally bridges were made by distraint or levy. One of the provisions ("No town or freeman shall be distrained to make bridges at streams, but such as of old time and of right ought to make them") of *Magna Carta* was directed against an undue extension of this obligation, and the provision was included in the various reissues of the Charter during the reign of Henry III.

The next important legislation on the subject was the celebrated Statute of Bridges, 1530. We are told therein that "in many parts of this realm it cannot be known and proved what hundred, riding, wapentake, city, borough, town or parish, nor what person certain, or body politick, ought of right to make such bridges decayed, by reason whereof such decayed bridges, for lack of knowledge of such as owen to make them, for the most part, lie long without any amendment, to the great annoyance of the king's subjects." Justices were therefore authorised to "inquire, hear and determine, in the king's general sessions of peace, of all manner of annoyances of bridges broken in the highways, to the damage of the king's liege people," and to order "the speedy amendment of such bridges," such repairs to be carried out, in the absence of any proof of responsibility attaching to any particular authority or person, by the inhabitants of the shire or riding, or city or town corporate, wherein the bridges happened to be. The same Act authorised the appointment of surveyors to see that repairs were carried out, and a further section required that the roads at the ends of bridges for a distance of 300 feet should also be maintained. The last-mentioned requirement was modified by the Highway Act, 1835, which, in the case of all bridges recognised as county bridges after that date, limited the duty of maintenance to the bridge and "the walls, banks or fences of the raised causeways and raised approaches to any such bridge, or the land arches thereof."

Henry VIII's statute did not give authority for the purchase of land for the purpose of rebuilding or enlarging county bridges. In 1740, however, the County Bridges Act of that year authorised the purchase, by agreement, of land, not exceeding 1 acre in extent, for such purpose. This authority was extended by the County Bridges Act (Lord Ellenborough's Act), 1803, giving powers for the repair or improvement of county bridges, or the reconstruction of such bridges within a distance of 200 yards of the existing bridge, and authorising the acquisition, either by agreement or compulsorily, of any land, not exceeding 1 acre in extent, which might be required in connection with altering the situation of or widening or enlarging any such bridge. The same statute further provided that no bridge thereafter to be erected should be deemed a county bridge unless built in a substantial and commodious manner, under the direction or to the satisfaction of the county surveyor.

In the year 1870 it was provided that in the case of turnpike roads becoming ordinary highways, all bridges which were previously repaired by the turnpike trustees should become county bridges, although it was set forth that such bridges should be treated as if they had been built subsequently to the passing of the Act of 1835. Accordingly, in the case of bridges which became county bridges in accordance with this provision, only the maintenance of the bridge and of the raised approaches devolves upon the country authority, and not that of the road for 300 feet on both sides.

By Section 3 (viii.) of the Local Government Act, 1888, the administrative business of the Justices in Quarter Sessions relating to bridges and roads repairable with bridges was transferred to the Council.

The bridges in question were as follows :—

Wholly within the County of London.

Beckenham Lane Bridge, Blackhorse Bridge, Brockley or Ladywell Bridge, Catford Bridge, Deptford Bridge, Eltham Green Bridge, Lee (Lewisham) Bridge, Lee Green Bridge, Lee Road Bridge, Lewisham Bridge, Mill Bridge, Plough Bridge, Pool Bridge.

Partly within the County of London.

Beverley Bridge, Barking Road Bridge, Bow Bridge, Hermitage Bridge, Lea Bridge, Lower Tooting Bridge, Priest's Bridge, Roe Bridge.

Of these bridges, Brockley and Catford bridges were at one time county bridges, carrying Ladywell Road and Catford Hill respectively over the river Ravensbourne, but the viaducts which now carry these thoroughfares over the South-Eastern Railway were built over the two small bridges, and are now maintained by the railway company. Lower Tooting Bridge was constructed over the river Graveney under powers conferred by the Tooting, Merton and Wimbledon Railway Act, 1864, and under the provisions of that Act its maintenance is undertaken by the London and South-Western and London, Brighton and South Coast Railways joint committee.

Since the passing of the Local Government Act, 1888, the Council has recognised the bridge carrying Seven Sisters Road over the New River and that carrying High Street, Wandsworth, over the river Wandle, as county bridges. Highgate Archway, although it does not carry a main road over any stream is, in accordance with the provisions of Section 36 (ii.) of the London County Council (Improvements) Act, 1894, to be maintained and repaired as a county bridge. Most of these bridges are small, and situated on or near the county boundary. Whilst, therefore, the Council still carries out special works required to the structure of these bridges, it has been found more convenient and economical for the care of the roads over them to be undertaken by the various metropolitan borough councils, the Council paying those authorities for the work performed.

In addition to those county bridges, the liabilities in respect of which were transferred to the Council from the Justices, certain bridges which came under the control of the Council as the successor to the Metropolitan Board of Works are also county bridges. These consist of the various bridges, other than railway bridges, spanning the Thames to the west of Blackfriars Bridge up to and including Hammersmith Bridge and the bridge over Deptford Creek.

Westminster Bridge and Chelsea Bridge had been constructed by the Government, but with these exceptions all the above bridges had been built, and previous to the year 1877 were maintained, by private companies under powers conferred by special Acts of Parliament. Westminster Bridge was free, but in the case of all the others tolls were payable, even in respect of pedestrian traffic. The payment of these tolls was a source of intense public dissatisfaction, and was in particular productive of great hardship to the labouring classes. For many years the necessity for some steps being taken to remedy the evil was kept prominently before Parliament, and no less than six select committees of the House of Commons were appointed at various times from 1836 to 1876 to consider the question. Finally, in 1877, the Metropolis Toll Bridges Act was passed, which provided, *inter alia*, for the purchase by the Metropolitan Board of Works of the interests of the various private companies and of H.M. Office of Works in the following bridges:—Waterloo, Lambeth, Vauxhall, Chelsea (or Victoria), Albert, Battersea, Wandsworth, Fulham (or Putney), Hammersmith and Deptford Creek. Provision was also made for the acquisition of all the interests of the South-Eastern Railway Company with respect to rights of way or passage over the footbridges by the side of Charing Cross and Cannon Street railway bridges, including all powers with regard to tolls and charges. The Act further provided that, on the completion of the purchase of any of the undertakings, the tolls and charges arising from or in connection with the bridge or bridges comprised in such undertaking should cease to be levied thereon, and the said bridge or bridges should be open free to the public. The amount of compensation (exclusive of costs) paid by the Board in carrying out the requirements of the Act was 1,376,825*l.*

Except in the case of the two footbridges mentioned above, provision was made for the various bridges and the roads over the same to be maintained and repaired by the Board. It was consequently enacted that the bridges should not be or become county bridges, which would involve their maintenance by the counties of Middlesex and Surrey, but that these two counties should each contribute 1,200*l.* a year towards the cost of maintenance. In accordance, however, with Section 90 of the Local Government Act, 1888, which required these payments to be deemed liabilities which should be taken into consideration upon the necessary adjustment of the property, debts and liabilities between the counties of Surrey and Middlesex respectively, and the county of London, the payment made by Middlesex was abolished and that of Surrey was reduced to 133*l.* 6*s.* 8*d.* (in respect of Hammersmith Bridge). Inasmuch as, by the constitution of the Administrative County of London under the same Act, the bridges in question were no longer (except partially, in the case of Hammersmith Bridge) in the counties of Middlesex and Surrey, the reason against their classification as county bridges no longer existed. Moreover, it was even desirable that the bridges in question should be so classed in order to bring them within certain provisions of the statutes relating to county bridges. Accordingly, application was made to Parliament to enable this to be done, and the necessary powers were obtained by Section 46 of the London County Council (General Powers) Act, 1895.

Westminster Bridge, which had been transferred to the Metropolitan Board of Works by the London Parks and Works Act, 1887, also became a county bridge under the provisions of the Act of 1895.

Section 6 (ii.) of the London Government Act, 1899, provides that where a highway in a metropolitan borough is repairable by the Council by reason of its being the roadway or footway of a bridge, the borough council shall, if so required by the Council, undertake the maintenance and repair thereof in consideration of such annual payment by the Council as may from time to time be agreed on, or in default of agreement be finally determined by the Local Government Board. On November 27, 1900, the Council took into consideration the question of transferring, under the powers of the above section, to the metropolitan borough councils the duty of cleansing the county bridges across the Thames, but decided that it was inadvisable to take such a course.

Of the bridges under the Council's control spanning the river Thames, Waterloo and Putney bridges are built of stone, while Westminster, Lambeth, Chelsea, Albert, Battersea, Wandsworth and Hammersmith are of iron or steel. The latter method of construction involves periodical repainting, and it has been found that as a rule this work should be undertaken every five years. With the exception of Battersea and Putney bridges, where granite setts are used, the carriageways of all these bridges are paved with wood, and this form of paving requires periodical renewal more frequently than does the former. Endeavours are made to insure that these periodical repairs are distributed so that the cost does not fall unduly upon the rates of any one year.

THE SURVEY OF SPARTA.

In a letter to the *Times* appealing for aid towards the expenses, Mr. G. A. Macmillan gives the following account of the progress of exploration on the site of Sparta:—

The walls of the city have been traced for four-fifths of their extent, and are ascertained to be not Byzantine, but Roman in period. It seems likely that the adjacent *enceinte* was cleared of buildings in Classical times for strategic purposes. The excavators think that the ancient city may have included the area between the low hill which served as an Acropolis and the river Eurotas, in which case our notions of Spartan topography must be revised.

The second point of interest has been the investigation of the theatre, hitherto the only identified site of the ancient city, where a life-sized statue of Asklepios with portions of reliefs probably belonging to the proscenium have been found.

But the most important result obtained has been the identification, attested by inscriptions, of the site of the Temple of Artemis Orthia, which we know from Pausanias to have been the scene of the chastisement of the youths of Sparta, where enormous finds of votive offerings have been made. The scene of the discovery is a field on the right bank of the Eurotas, about half a mile to the south of the modern bridge. From time to time boys playing in the river bed had picked up little figurines of lead. Similar figurines having been found some years ago in the excavations at the shrine of Menelaos on the opposite side of the river, the British excavators suspected the existence of a second sanctuary, and made a trial here on April 7. Within a few hours it was clear that the site contained an immense deposit of votive offerings. During the past fortnight a few skilled workmen, working slowly with knives, have extracted many thousands of these peculiar figurines. At least fifty variant types have been found, representing divine and human figures, musicians, centaurs, sirens, fish and other animal forms, with inanimate objects, including altars, wreaths, vases, helmets and mirrors. If the material and the modest scale of the offerings seem to illustrate the traditional simplicity of Spartan usage, their number proves the importance and popularity of the cult. Nor are offerings of more costly material wanting. The ivory carvings include two statuettes in the round, a lion, four figures of rams, a helmeted head and a number of discs, combs and pins. In bronze there are statuettes of a horse and a dog, and large fragments of bowls and caldrons richly decorated in repoussé work. Smaller objects of both gold and silver have been found, including a silver pin with fine spiraliform decoration. Terra-cotta statuettes in great variety have come to light with large quantities of pottery. Apart from this deposit, upwards of 100 inscriptions have been found since the work began.

In the temporary absence of the director at Athens Mr. Guy Dickins, of New College, Oxford, has been in charge of the work, and in the course of these excavations has located the temple and traced two of its sides. For the moment progress has been impeded by a mill stream which runs through the *temenos* and intersects the temple. Before further excavation can be attempted it will be necessary to expropriate the land and divert the stream. The discovery of the lost temple coincided with His Majesty's arrival in Greek lands, and was made the subject of a gracious message of congratulation to the director of the school, Mr. R. C. Bosanquet, who is in charge of the excavations.

Broadly speaking, the deposit described above consists of objects which may be assigned to the sixth and fifth centuries before our era. The pottery is largely of the "Orientalising" types, and the presence of scarabs and other imported objects confirms what has already been suspected—the presence of strong Oriental influence in Laconian art of the archaic period. The site is one of exceptional promise, and more than justifies the selection of Sparta as the scene of the labours of the British school, when it is remembered that the results enumerated above come from the mere fraction of the temple precinct that has been opened. Until to-day archæologic research has done little or nothing to add to our knowledge of the State which vies with Athens herself for the commanding place in Hellenic history, and it rests with us to see that the work thus happily inaugurated is adequately sustained. The Greek authorities under Dr. Cavvadius are extending their usual courteous co-operation by erecting secure quarters for the reception of the finds, and in this and in other matters the Spartan Ephod, M. Soteriades, is an efficient ally. But the depth of earth is unexpectedly great, the rate of wages is higher than has hitherto been the case, the question of expropriation has to be faced, and it will be necessary to secure permanent quarters for the excavators in the neighbourhood.

GENERAL.

The King has consented to become patron of the second International Congress on School Hygiene, to be held in London from August 5 to 10, 1907.

Mr. Ernest W. Dyson, architect, Barnsley, has been successful in the competition for an Independent Methodist church at Harwich.

The Royal Institute of Painters in Water-Colours, Piccadilly, at their last meeting elected the following gentlemen as members:—Messrs. A. D. McCormick, E. Borough Johnson, Norman Wilkinson, Moffat Lindner, H. M. Brock and Ernest E. Briggs.

The Very Rev. H. D. M. Spence-Jones, dean of Gloucester, has been appointed Professor of Ancient History at the Royal Academy of Arts.

The Maidstone Town Council have appointed a sub-committee to catalogue and otherwise deal with the Corporation documents.

The York Architectural Society at their annual meeting elected the following to serve on the executive for the session of 1906-7:—President, Mr. Arthur Pollard; vice-presidents, Messrs. S. Needham and A. A. Gibson.

The Architectural and Archæological Society of Durham and Northumberland decided at their annual meeting to have a two days' excursion to York. Canon Greenwell, president, said nothing had been discovered at Durham Cathedral during the past year. He referred to the misuse of Galilee chapel in the cathedral by students attending morning prayer, and suggested they should be seated in the nave. He protested against certain portions of the castle being at present used as lodgings for students, adding that in the event of fire the whole of the building would probably be destroyed.

The Villa Palmieri, at Florence, when offered for auction by Messrs. Trollope, failed to find a purchaser. The auctioneer commenced by inviting a bid of 30,000*l.*

Three Paintings have been purchased under the Chantrey Bequest from the Royal Academy, viz. *Birnam Wood*, by Mr. D. Farquharson; *The Heretic*, by Mr. F. Craig; and the *Deserted Mill*, by Mr. Leslie, R.A.

A Waterworks Engineering Expert is to be engaged by the Dublin Corporation to report on the plans and specifications for the new Vartry reservoir, at a fee not exceeding 200*l.*

The Success of the Dunfermline Hygiene College, which was established by the Carnegie Dunfermline Trust, has induced the Trust to extend the college residence or hostel. At the Dean of Guild Court on Monday plans were passed for additions to this establishment and for the conversion of part of the property abutting on Canmore Street into a gymnasium.

A Special Committee in Glasgow who had 700*l.* placed at their disposal recently to purchase sculpture from the present exhibition of the Royal Institute of Fine Arts, Glasgow, have resolved to offer 700*l.* for the bronze study, "Springtime of Life," by W. Robert Colton, A.R.A. Of this sum 300*l.* is given by the Glasgow Corporation, 300*l.* by an anonymous donor and 100*l.* by the Institute.

Over Fifty Applications have been received for the position of surveyor to the Corporation of Birmingham, vacant by the death of Mr. John Price. A sub-committee will make a selection. The appointment will not take place before the June meeting of the Council. The salary is 1,250*l.* per annum.

Two of the District Surveyors of the Metropolis have resigned their appointments, viz. Mr. Hugh McLachlan, of the western division of the City of London, and Mr. Charles James Badger, of Lewisham.

A Roman Mosaic Pavement was recently unearthed in the parish of All Saints, Dorchester. The Rev. S. E. V. Filleul, the rector, presented the pavement to the daughter town of Dorchester in the United States. The rector has received a letter from the president of the high school in that town stating that the pavement has been carefully laid by Italian workmen at the main entrance of the new school buildings.

The Church of St. Michael, Burleigh Street, Strand, which was closed by an order of the Privy Council dated August 8, 1905, owing to the property of the parish becoming more of a business and less of a residential character, has been purchased by the Commissioner of Woods and Forests on behalf of the Crown, the present owners of the adjoining properties in Burleigh Street and the Strand, for the sum of 20,500*l.*, which was at least 5,500*l.* below the auctioneer's expectations. This sum of money will be devoted to raising a new church and vicarage at Sutton Court, Chiswick.

The Linlithgow Town Council have decided that the town clerk should be instructed to write to H.M. Board of Works expressing the Council's appreciation of the interest that was being taken by them in the restoring of Linlithgow Palace, and to respectfully suggest that the Parliament Hall and the chapel should be roofed in.

The Birmingham Museum and School of Art Committee in their annual report state that during twenty years the gallery has been visited by more than 13,000,000 people; more than twenty special loan exhibitions have been held, to which some 700 owners have lent 6,288 pictures and 4,970 objects of art; about 315 pictures and water-colour drawings, 500 drawings and 900 engravings and etchings have been added to the permanent collection, which is now of a total value of more than 135,000*l.*, the value of the gifts during that period being estimated at 80,000*l.*; and seventy-eight catalogues have been issued, of which 331,315 copies have been sold, more than 280,000 of them at the price of one penny, and 10,612 photographs of the pictures and art objects.

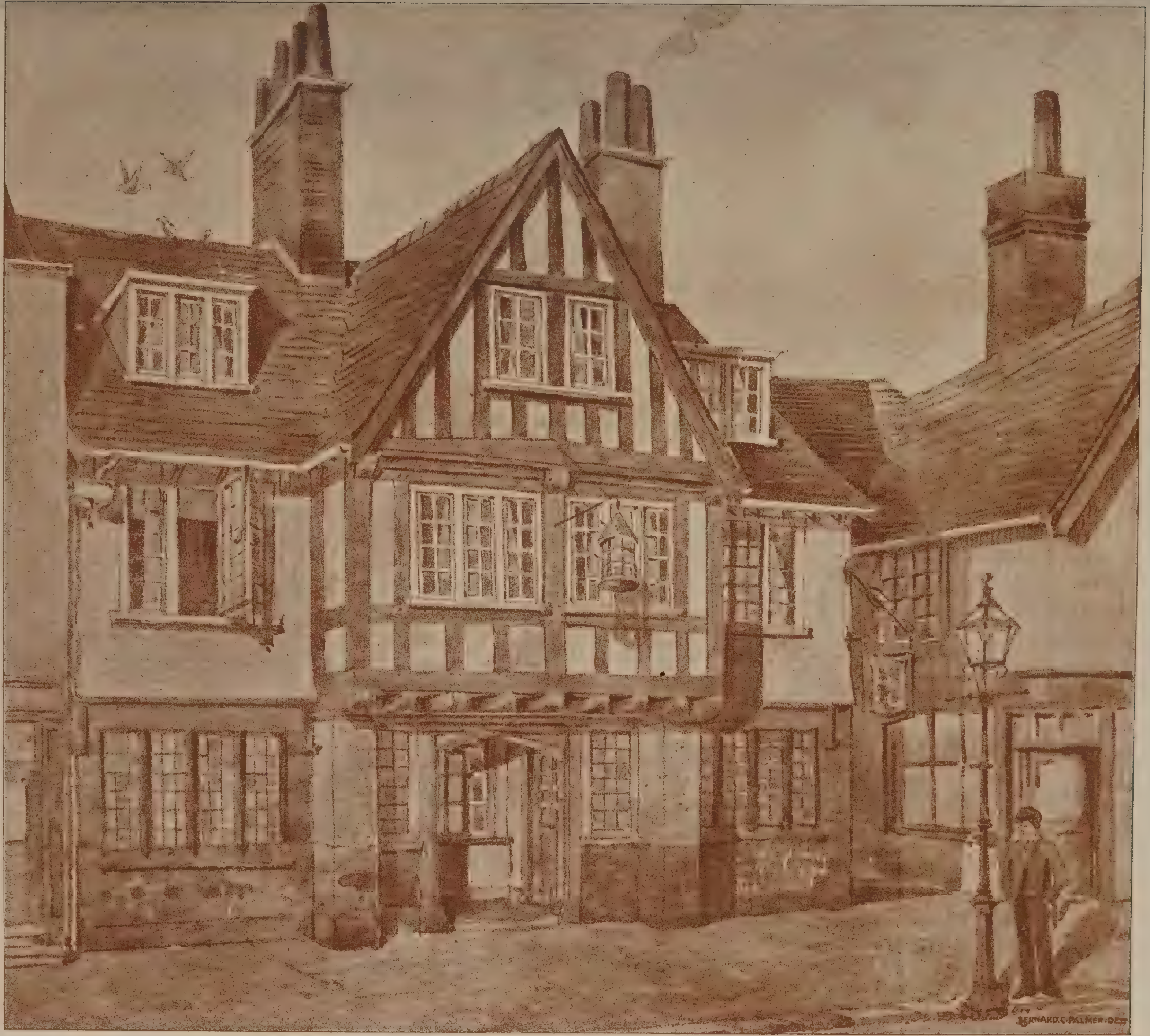
The Foundations of Liverpool Cathedral are completed, and preparations are being made for the laying of the foundation-stone of the Lathom chapter-house on the 25th inst. The ceremony is to be performed by H.R.H. the Duke of Connaught, full Masonic rites being observed. At a meeting of the executive committee on Monday letters were read from Sir Hardman Earle offering a window in memory of the late Sir Thomas and Lady Earle; from Mr. Moon offering a marble pavement for the choir, in memory of Sir R. Moon; and from a Liverpool citizen stating that he had made provision in his will for the cost of a peal of bells for the cathedral—about 2,000*l.*

The Finance Committee of Aberdeen Town Council have had under consideration the question of the maintenance of the Art Gallery. It was agreed that until a Bill could be promoted in Parliament to place the maintenance of the Gallery on the rates a recommendation should be made to the Gallery committee not to exceed an expenditure of 500*l.* per annum. It was stated that it would be some fifteen months before rating powers could be obtained from Parliament, and that the expenditure up to that time would probably amount to from 1,200*l.* to 1,500*l.* An announcement was however made that the Clark Trustees had intimated another donation of 4,000*l.*, which would relieve the Gallery committee of the debt of about 4,000*l.* on the new buildings. This brings the donations of the Clark Trustees to the Gallery to 12,000*l.*

Professor Flinders Petrie will commence a course of lectures at University College, London, on the 17th inst. The subject will be "Hyksos and Israelite Cities."

The Conditions of the international competition for the memorial of Shakespeare in London will shortly be announced, and the designs will be exhibited next year. A donation of 1,000*l.* by Mr. Richard Badger will be assigned to prizes.

Mr. Batsford is preparing a work on "English Domestic Architecture, chiefly of the Tudor Period," by the late Thomas Garner. There will be 150 folio plates, besides plans, &c., with an historical and descriptive text.



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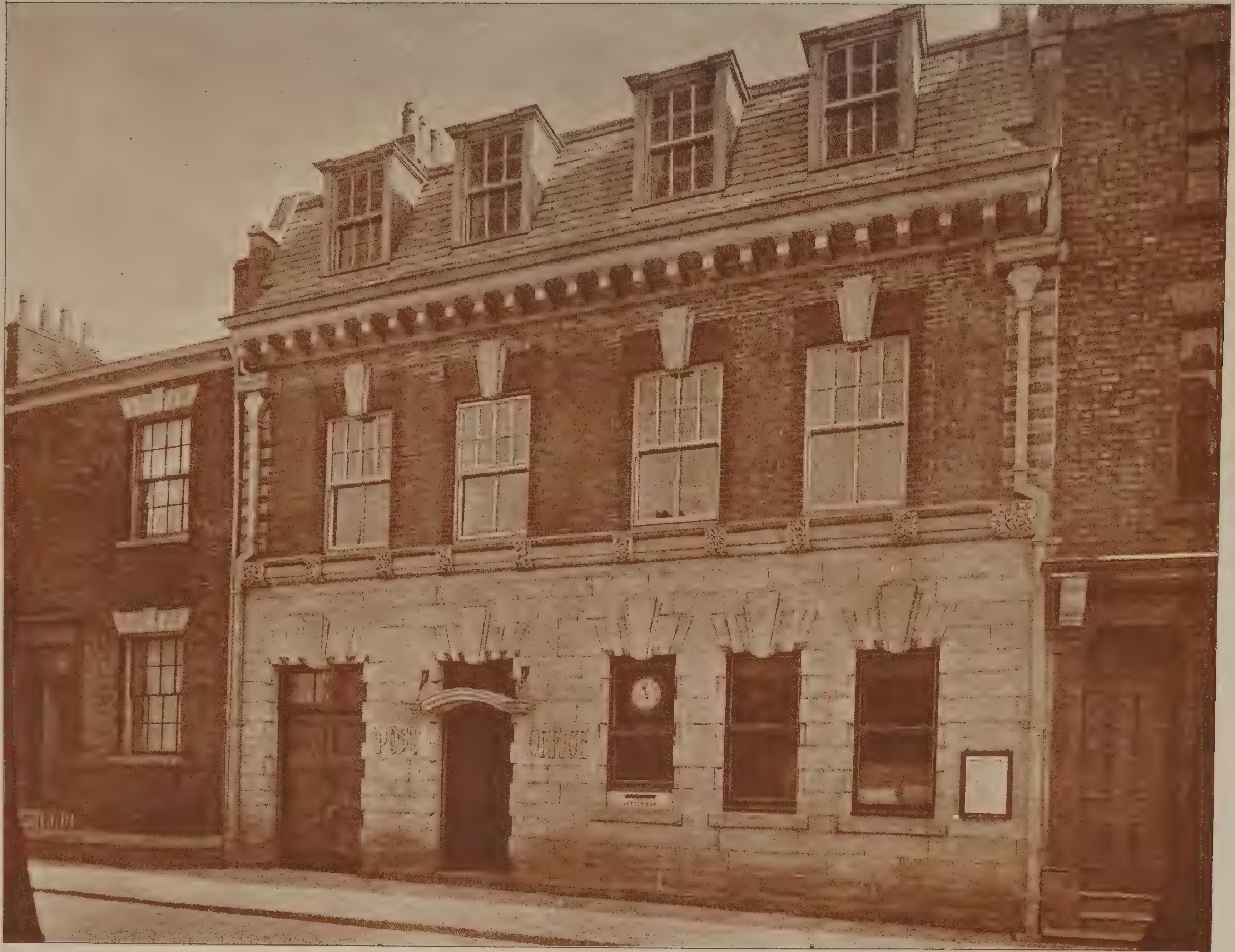
DESIGN FOR A VILLAGE INN, SUSSEX.

Messrs. RUNTZ & FORD Architects.

OF THE
UNIVERSITY of ILLINOIS



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RIPON POST OFFICE.

JOHN G. BURRELL, Architect.

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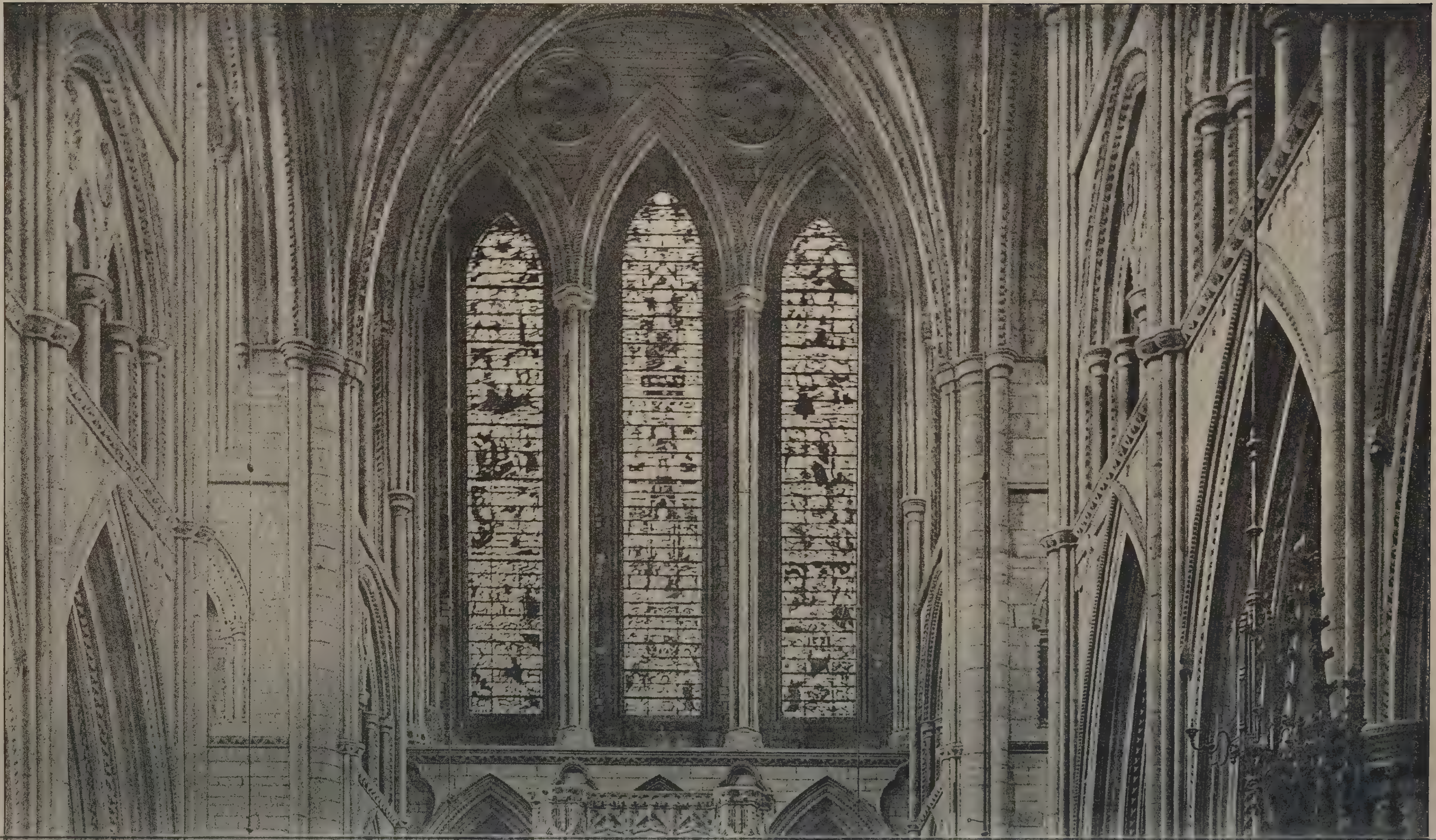

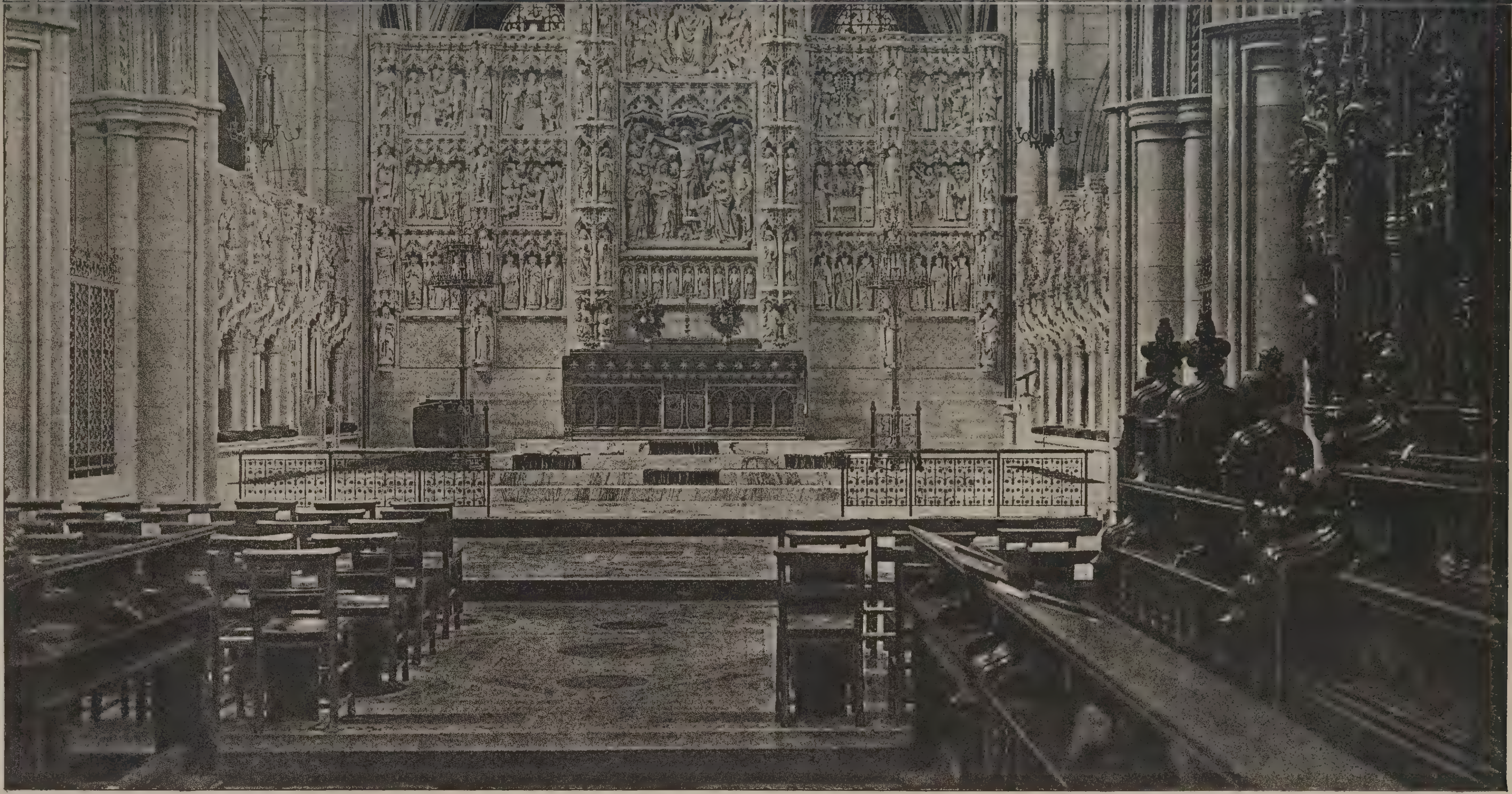

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CATHEDRAL SERIES, No. 559.—TRURO: THE EAST END, SHOWING REREDOS.

The late J. L. PEARSON, R.A., Architect.

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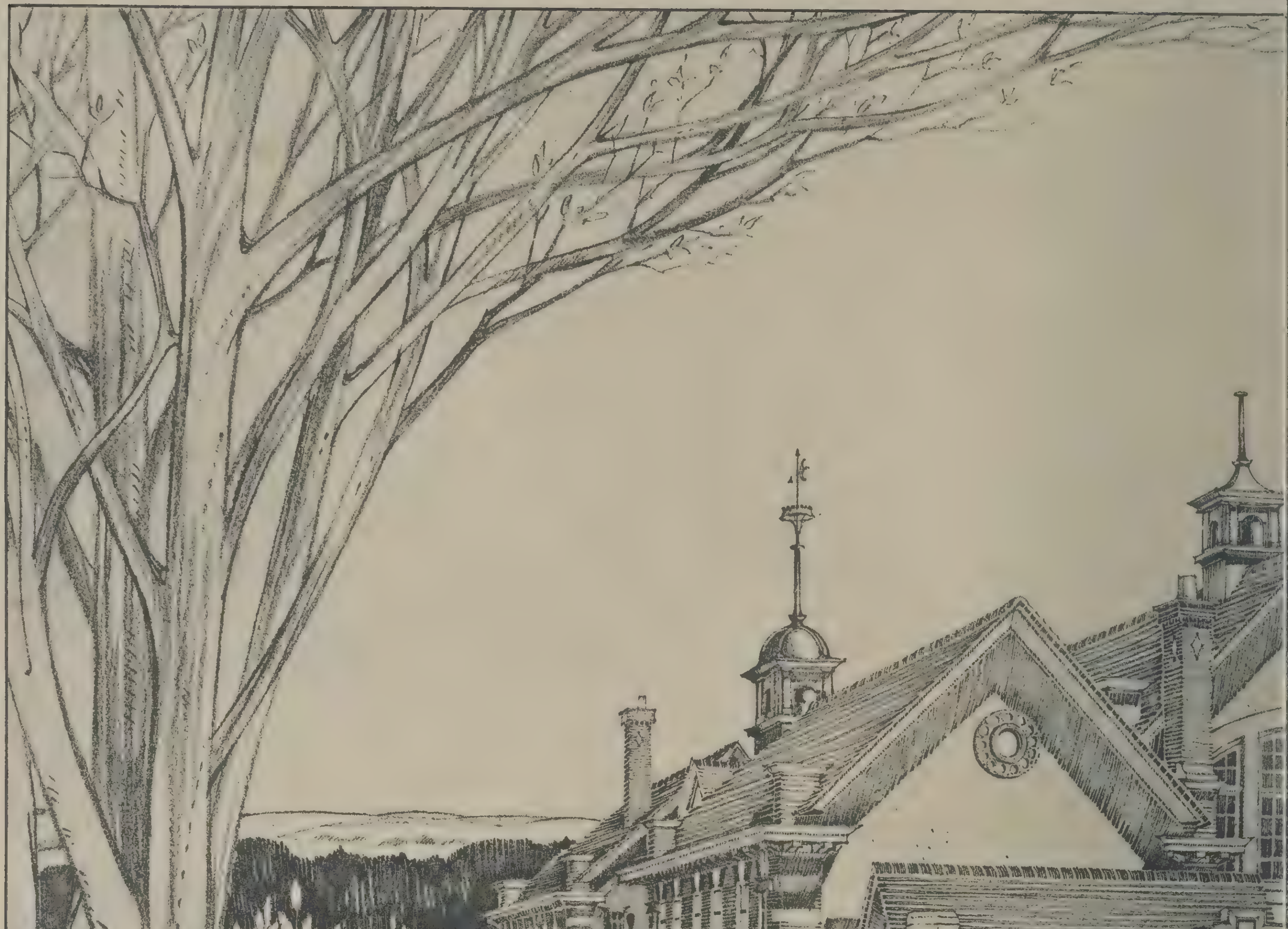
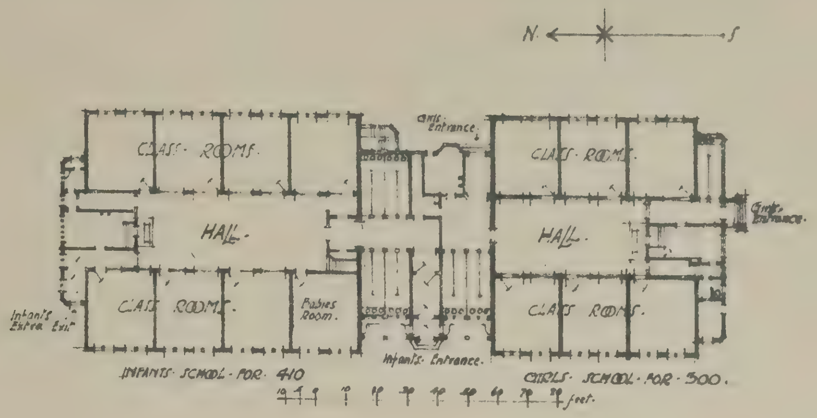
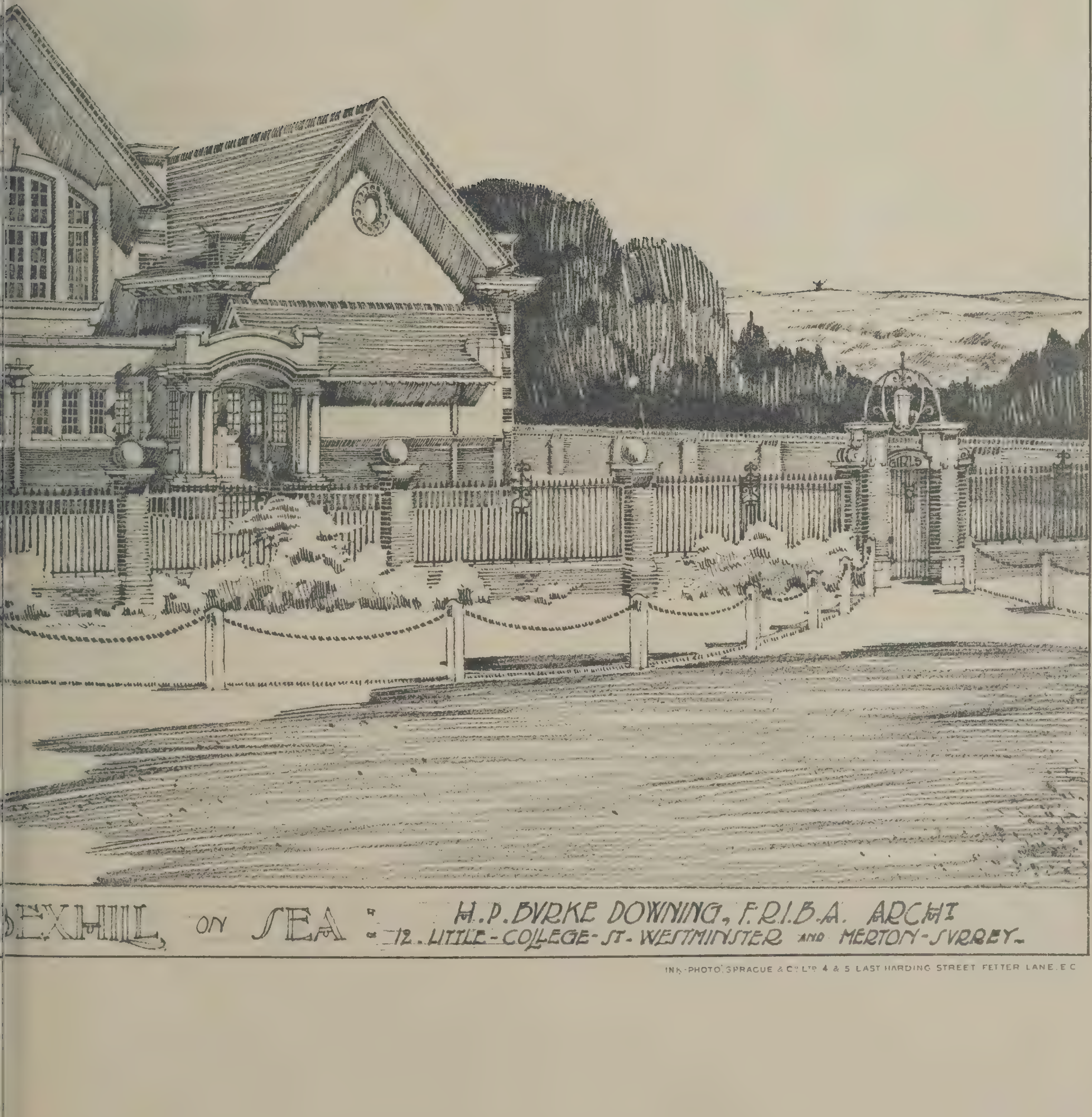


COVNCIL-SCHOOL FOR THE BOROVGH OF





EXHILL, ON SEA : H. P. BURKE DOWNING, F.R.I.B.A. ARCHT
12. LITTLE - COLLEGE - ST - WESTMINSTER AND MERTON - SURREY.

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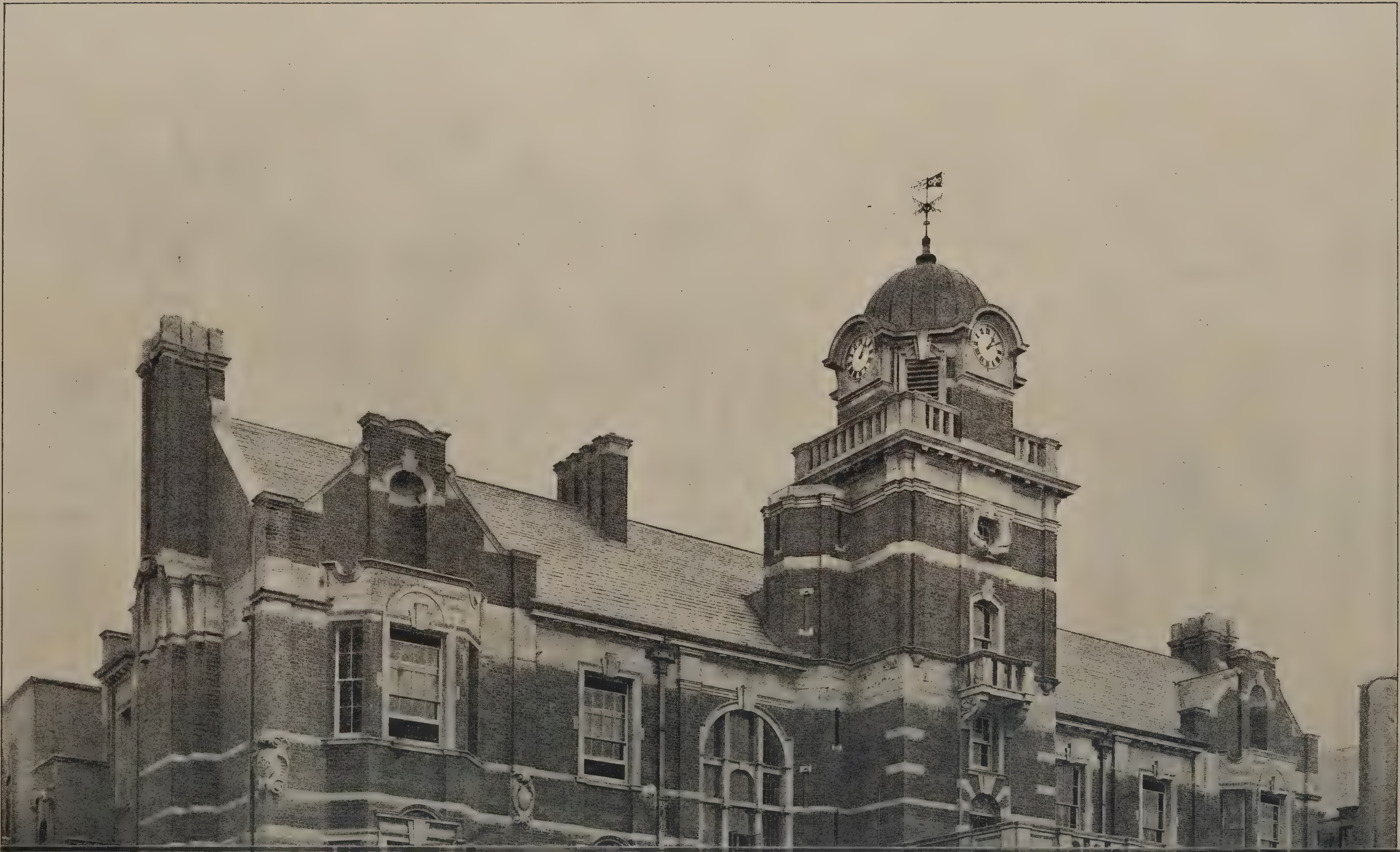

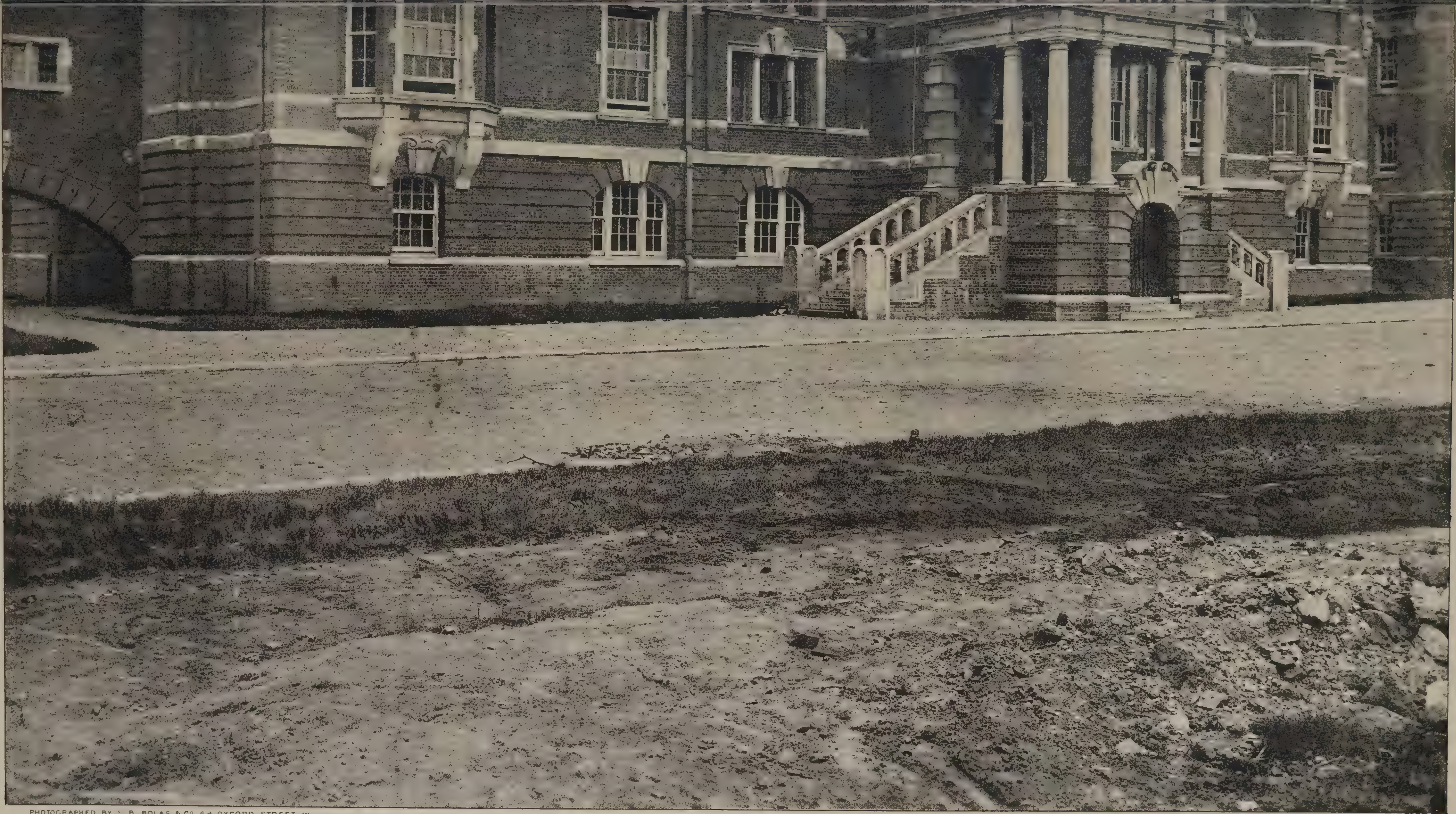

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NAVAL BARRACKS, CHATHAM: OFFICERS' MESS, CENTRE BLOCK.

SIR ASTON WEBB, R.A., Architect.

The Architect.

THE WEEK.

English architects are rarely disposed to enter into competitions on the Continent. It is, therefore, not to be considered as a British failure if the names of representatives of this country are absent from the prize list of the Palace of Peace which is to be erected at The Hague. The cost of erecting the building will be borne by Mr. Carnegie, and an Englishman, Mr. T. E. Collcutt, was one of the judges. But the first and second prizes of 1,000*l.* and 750*l.* respectively are to be added to the long list of French successes, the design of M. L. Cordonnier, of Lille, having attained the foremost place, and M. Marcel, of Paris, the second. Herr Wendt, of Charlottenburg, Berlin, takes the third prize of 583*l.*, while the fourth, of 460*l.*, was awarded to Herr Otto Wagner, of Vienna. An extra prize of 250*l.* was given to Messrs. Howard Greenley and H. S. Olin, of New York, and another of equal amount to Herr Schwechten, of Berlin. Two Frenchmen, two Germans, an Austrian and an American firm have therefore been distinguished in the competition, which may have in consequence a claim to be considered international. M. Cordonnier's design is suggestive of France and of Holland. It cannot be said, however, to possess the repose which would be most expressive of a Palace of Peace. Vertical lines predominate, and there is a general effect of restlessness, but that may be considered desirable in a country which is level and where buildings have a tendency to be horizontal in style.

Technical education being the greatest need of the Irish people, it ought to be encouraged as much as possible. But much progress is not likely to take place if committees are allowed to have only a nominal authority and are compelled to obey the demands of the Government office, which in this case is known as the Department of Agriculture and Technical Instruction. A case occurred quite recently which suggests the tight hold which the officials of the Department have in dealing with local authorities. Ball's Bridge, which is a suburb of Dublin, contains some of the institutions of that most useful body, the Royal Dublin Society. It was, therefore, quite natural that the Council of the township should set up a technical school in the village. The Department sanctioned a scheme by which the master of the school was to be paid 300*l.*, with an assistant at 150*l.* a year. For useful men the sums are inadequate. After a time the local Council increased the salary of the master to 350*l.*, the money being obtained by reducing the salary of the teacher. To the arrangement the Department objected, on the ground that authority should have been obtained beforehand. An inquiry was therefore ordered, which certainly will cost more than the increase given to the master. It was argued on one side that those who had to pay the money should control its expenditure; while for the Department it was contended that once an institution came under its control it was always under its control, in respect of finance as well as other things. It is not to be expected that the ordinary elected representative can judge of technical instruction, but he is able to decide whether money is wasted or not, and to deprive him of that privilege is impolitic.

It is an unwise policy for contractors to come into collision with any of the engineers or officials of the metropolitan boroughs. It is not the same as dealing with an ordinary engineer or architect respecting work for a private client. Union is strength in metropolitan affairs, and it can be exhibited in a variety of ways by which a contractor will incur losses for which it is poor consolation to be able to say he has fought a good fight. A case of the kind is now taking place in Kensington. A contract was given to erect a destructor. Apparently everything went on satisfactorily until a dispute arose respecting the granting of a certificate. No doubt the delay caused inconvenience, for in such structures there must be a series of cells, and if one does not operate properly they are all affected. Thereupon the borough engineer was authorised to consult Sir Alexander Binnie, who has a reputation in the Courts, and he testified in his report to whatever he considered was unsatisfactory. To aggravate matters, the London County Council have declared the destructor to be a dangerous structure, and ordered a part of it to be taken down. The contractors deny that there is any danger, and, according to them, the whole trouble has been caused by one of the Kensington officials. The law committee are now considering what steps are next to be taken, and it is not difficult to imagine the character of the report. It is not our business to express a judgment in the case, but it is manifest that whatever may have been the defects, they have assumed an importance through official action which probably was not anticipated when the difference arose.

There is one class of men who are likely to suffer through the catastrophe at San Francisco, viz. those belonging to the so-called professions. According to the *American Architect*, Mr. H. E. Huntington has started a fund by a contribution of 30,000 dols. for the relief of them and their families. As our contemporary remarks:—"The professional man, the lawyer, the doctor, the engineer and the architect is by such a disaster put much more to a disadvantage than the bookkeeper, the clerk and the salesman, since their usefulness depends largely on their having available for immediate use not only the tools of their calling, but also a fair working library; and it is the object of Mr. Huntington's thoughtfulness to provide such tools and libraries for those who need them. It is quite immaterial that most of the doctors and lawyers are already exceptionally busy, while the architects and the engineers are certain to have more work to attend to during the next twelve months than, a day before the fire, they could possibly have expected to come to them during the next twelve years. For the moment they are in distress, and as, because of their professional losses, they are unable to give their stricken community the full benefit of their knowledge and skill, it is a happy event that someone has thought to afford them this special relief." It is to be regretted that under such circumstances our Architects' Benevolent Fund or the Artists' Fund cannot come to the aid of their American brothers.

By-law 14 of the by-laws made under Section 39 of the London Public Health Act, 1891, provides that every person who shall intend to construct any water-closet, &c., or to fix in, or in connection with, any water-closet any apparatus or trap or soil-pipe, shall, before executing the work, give notice in writing to the clerk of the sanitary authority. It has been decided—London and South-Western Railway *v.* Hills—that this notice must be given not only in cases where a new water-closet is being constructed, but also in cases where an old water-closet is being repaired, by doing any of the things enumerated in the by-law. It was argued that this construction would lead to inconvenience, because it would mean that the smallest repair could not be executed without notice to the sanitary authority. The answer to this is that there would be no inconvenience if the term "apparatus" in the by-law is reasonably construed. "I think," said Ridley, J., "that expression must be understood as limited to those things which, upon renewal, would, if inefficiently renewed, be liable to render the premises insanitary. Thus, I do not think that a handle or chain pull would be part of the apparatus in that sense. . . . But the renewal of a pan, or trap, or soil-pipe, or ventilation pipe stands on a different footing."

SEISTAN AND ITS RUINS.

PERSIA was so important a kingdom in ancient times and is connected so closely with the rivalries of European history in the future, it now receives unusual attention from explorers. For over sixty years English travellers have been endeavouring to obtain information at personal risk respecting so great a country, which, from being a neighbour of Afghanistan and Baluchistan, has unusual political importance in respect of the Indian Empire. Persia is, however, no less interesting to archæologists. In November 1905 we reviewed a book by Lieutenant Olufsen, who was the chief of two expeditions sent all the way from Denmark to obtain, if possible, some information about the old buildings. He was able to give illustrations of some of the remains of architecture in Khiva, Bokhara and Turkestan. In the last number of the *Journal of the Society of Arts* there is a report of an important lecture by Sir Arthur Henry McMahon, which deals with another part of Persia, viz. the district of Seistan. Anyone who will look at a map of Persia will see that Seistan projects from the general line of the boundary, and, as it were, intrudes on the southern part of Afghanistan. The great river, the Helmand, of which a branch runs close to Candahar, seems to have its source in Seistan. The district is, in fact, half in Persia and half in Afghanistan, and parts of it are of great fertility.

This out-of-the-way land, which might seem to be interesting mainly for political considerations, and which on some maps is shown as no more than a colossal swamp, is remarkable for its remains. As Sir Arthur McMahon says:—"Everywhere in Seistan, except on the higher gravel-covered terraces, we find ruins. No country in the world contains so many. Everywhere one looks are ruins stretching away as far as the eye can see. The number, magnitude and nature of these ruins testify to a time when Seistan was far more populous, prosperous and civilised than it is to-day." Indeed, he believes that Seistan was the birthplace of Persian history and romance.

The semi-mythological warrior known as Sam or Sahm was the hereditary chief of Seistan, and he gave his allegiance at a most critical period to Minoutchehr, who was the son of Feridoon, a king who was described by one of the Persian poets as glorious although he was not an angel nor made of musk and amber. Sahm's son Zal-Zer was also a hero and warrior, and his grandson Rustam was during four reigns the greatest warrior in all Persia. The legends of which he is the hero form a main part of Persian literature. Rustam's adventures were made the subject of a poem by Firdousi (*i.e.* Paradise), the poet, who died in 1020. The work was translated and brought out in the finest style by order of the French Government in 1848. One of the incidents was treated by Matthew Arnold in his "Rustem and Sohrab," and Firdousi's work has been made available for students of all lands. In Persia it is said that 300 villages were named after Rustam. When Seistan was invaded by Tamarlane, according to a tradition a voice was heard near the sepulchre of Rustam bidding him arise and see how Iran, the land of light, had fallen into the hands of the Turanian. "The Book or Epic of Kings," as the poem is called, mainly relates to the history of Seistan. From it we learn of continual wars and of the return of the victors, when in their honour "all the land was decked in festal garb, and the world resembled cloth of gold, and musk and amber perfumed the air, and jewels were strewn about the streets like unto vile dust." The explorations of Sir Arthur McMahon compel us to believe that Firdousi's cloud-capped towers, gorgeous palaces and solemn temples were like the men who erected them—made of clay. It would, however, be outside our province to mention even the names of the warriors who arose in Seistan. For centuries the region has been closely connected with Persian history and with the invasion of India from the West. But in course of time it ceased to have any special importance, and was merely recognised as one of the remote districts of the Persian kingdom.

In 1872 the name became known to many Englishmen for the first time. The boundary between Afghanistan and Persia had become defaced. The British Government having been asked to interfere, Sir Frederick Goldsmith was sent to lay down a line. In 1896, owing to a change in the river Helmand, the boundary disputes were renewed and Sir Arthur McMahon was sent to fix a boundary line which for 200 miles is marked by massive pillars. In that way he gained opportunities to examine ruins which no European had seen and to make plans and photographs of them. An archæological report is in preparation by Mr. Tate, survey officer to the mission, and when it appears it will contain all the information that was collected.

Like many other Eastern countries, Seistan has no stone quarries. Brick has therefore to be used. It was found that all the ruins had lower courses of baked brick, while sun-dried brick was employed for the upper part. It might be supposed that mud bricks were not likely to endure. But some of the ruins have stood the wear and tear of centuries. In the first place, the walls are very thick, the clay is adapted to make excellent bricks, and the rainfall is on an average only 2 or 3 inches a year. The ruins would be found in more perfect condition if it were not for the wind:—

> "The chief enemy of Seistan ruins is the wind, which blows with terrific force and from always the same direction, a little west of north, more or less throughout the year," says Sir A. McMahon. "All the old ruins of Seistan, except the few circular ones, are orientated at exactly the same angle, *i.e.* the angle of the wind. Their long side walls are in the same direction as the wind and their shorter end walls at right angles to it. You will see from the photographs I shall show you how the wind has undercut the ruins, just as water action would do, and how in places the end walls have been entirely blown away, leaving only the side walls standing. In places solitary pinnacles are all that the wind has left of extensive old buildings."

The part which is inhabited is mainly near the river Helmand. At one time there must have been large cities. The ruins of Zahiden, a place which was described by a traveller in A.D. 900, cover several square miles. Near Zahiden was a minaret, of which the part now existing is 76 feet high. Unlike other structures it is made of burnt bricks of very small size. It was erected about the time when the Normans came to England, and it would probably now be in a more perfect condition but for the deliberate efforts which were made to destroy it. In Seistan, as elsewhere, people are indifferent to antiquity. Another ruin, a place called Karkee, is considered by Sir Arthur McMahon to have been the ancient fire temple of Kan Koi, which was one of the most celebrated of its class. Fergusson says that with the ancient Persians, apart from regal state, the fire temple was the only one they used, and examples are difficult to find. Light and darkness were the contending forces of Persian theology, and it was not always considered necessary to exemplify their opposition within the limits of a building.

Long before Rustam was a victorious force there were canals which suggest that prehistoric man in Persia was not wanting in intelligence. In what is now a desolate place known as Ramrod, Sir Arthur McMahon says he discovered numerous mounds covered with black pottery of the kind attributed to the early days of mankind, and which marks, so to speak, the dawn of civilisation. Here, too, on these mounds are traces of a still earlier age in the form of palæolithic stone implements. These old human relics take us in one jump from the two or three thousand years of the Rustam age to the many tens of thousands of years of the palæolithic age. All we have to mark the vast intervening ages are the bits of black pottery and the bits of the more recent but still extremely ancient red pottery which are to be found in enormous quantities all over this portion of the Ramrod delta. At Saxotar, which is a wilderness in Eastern Seistan, he found ruins consisting "of an inner fortress or citadel, of circular form, on a mound round which was a town surrounded by fortified walls. Outside that again, and enclosing a large area of ground, is another surrounding line of high fortified walls. Much of this and surrounding ruins are covered by sand."

The fragments of pottery which he found in the ruins are superior to those found elsewhere in Seistan. There were also a large number of seals and intaglios, suggesting that at some remote period the place was of importance. But the influence of the past is without effect on the modern inhabitants. Within sight of these imposing ruins they live in miserable hovels in the form of domed houses formed into a village. However picturesque they may seem to be at a distance, they are really dirty and squalid. Not even in the capital is there any sign of a desire for comfort. According to Sir Arthur McMahon, no better illustration of the present degeneration of Seistan can be afforded than its capital, Nasratabad, with its broken-down walls, dilapidated gateways and dirty squalid interior. The luxury of the past ages of Seistan, of which we find abundant evidence in the enormous quantities of broken pottery, china and glass strewn over the face of the country, in the beautifully inscribed seals of agate and other stones and in curiously worked copper utensils and ornaments, and so on, appears to have entirely died out. Instead of the beautifully made pottery and china of the past, the Seistani of to-day has only rough pottery of the simplest kind, and very little of that. Glass is unknown, and the empty bottles left on the camping-grounds were keenly fought over as priceless treasures. It is satisfactory to find that, in spite of all the efforts of Russia, Seistan has become an important trading station between India and Persia. The trade road from Quetta which was opened by the Indian Government has had much to do with the increased traffic. Of course, the people are very backward if judged by modern tests, for bartering is carried on as in primitive times, and the cash estimated as in the possession of each inhabitant of Seistan is found to be only 1*s.* 3*d.* In the future Seistan may be of great importance to Great Britain. In the case of a conflict with Russia it would be among the districts immediately attacked. There is at present a railway from Quetta which it is expected will shorten the distance from Persia, and in that way it might happen that Seistan would have strategic value which could be turned to account.

SANDRO BOTTICELLI.

It was stated in *The Architect* last week that some members of the Liverpool Corporation who visited London were informed that painters were not undertaking important subject pictures because there was no encouragement for such works. Patrons preferred to buy works ascribed to old masters rather than the productions of painters who were living. A striking commentary on the statement was afforded by the sale at Christie's on Saturday of paintings by Italian and other masters. For a panel by Sandro Botticelli 5,000 guineas were given, for a portrait by Holbein 1,250 guineas, and for two more of his portraits 3,000 guineas. No less remarkable was the payment of 2,500 guineas for a portrait by Hoppner. For a picture which was sold thirty years ago for 91 guineas, and which was supposed to have been painted by Titian, 2,100 guineas had to be paid.

In the history of connoisseurship, favourites rise and fall in as mysterious a manner as courtiers in royal palaces. A very few years ago Hoppner was regarded as no more than an imitator, who owed any success he obtained to the accident that he was by birth a hanger-on of the English Court. In a few years we may expect to find it stated that he had greater variety than Romney, and still higher prices may be given for his pictures.

The case of Botticelli is still more noteworthy. He was unknown to Reynolds, and there is no allusion to him in the volume of lectures on painting by some of the early Academicians. His name is not mentioned by Walpole. Not one of his pictures was in the collection of Charles I., which included examples of all the masters who were prized at the time. There might be some excuse for the English ignorance of the merits of Botticelli. But what is to be said of those who founded foreign galleries? The royal collection at Dresden is known to be one of those in which much discrimination was exercised in the selection of paintings. It was not until 1868 that an example by Botticelli was added, viz. four scenes out of the life of Bishop Zenobius. Another example, a *Madonna*, was obtained in 1874 out of England. Not until 1855 was a picture by the artist secured for the British National Gallery. Numerous histories of Italian art and biographical dictionaries have been published without any reference to Botticelli's pictures.

A painter who has taken so many years to "discover" could not possess the qualities which strike all the world by their naturalness, vigour, or beauty. Indeed, from what is said by Vasari, we may infer that Botticelli's pictures were to the Florentines of his own day what caviare is to the general. One of his chief works was supposed to be heretical in principle. It was concealed from view, and the altar for which it was to be an adornment ceased to be used for services. It may therefore be inferred that a great deal of the admiration which his works excite is little more than mere affectation. In Goldsmith's time it would appear that to praise the works of Pietro Perugino was accepted as a sure sign of good taste. The master of Raphael, and of so many other painters, is now considered to be no more than a mere manufacturer of pictures, who understood the principle of the division of labour perfectly, and who posed his figures in such a way that it was a simple matter to transform them so as to meet the special demands of patrons. Botticelli has now taken Perugino's place as an artist whose qualities are, it is assumed, only to be made out by skill and sensitiveness to beauty. Nevertheless, it must be allowed that he, at least, was free from the manufacturing spirit. Like all great masters he had his school, and his pupils were able to copy him so closely that experts find it impossible to distinguish between genuine works and imitations. But that result of admiration and loyalty appears to have been almost unavoidable in the fifteenth century.

It is difficult to class Sandro Botticelli. As he was born in 1447 and lived until 1510, he was a contemporary of Leonardo da Vinci, who lived between 1452 and 1519. The two painters gave most attention to countenances, and both aimed at creating types of women which have something mysterious about them. Botticelli, whose real name was Alessandro Filipepi, was the son of a tanner, one of those shrewd Florentine citizens who desired to be able to use his son in business. But reading, writing and accounts did not suit the boy, and in despair the father turned him over to a goldsmith named Botticello to make something of him. In the workshop he was fascinated with painting, and the father was wise enough to have him transferred to Fra Lippo Lippi, whose curious history has been often told. The monk, with all his faults, was able to produce lovely paintings of the Madonna and children, and it was not long before his pupil was competent to rival him. Sandro's ambition and sense of innate and acquired power was proved by his daring to paint a figure of St. Augustine in rivalry to one of St. Gerome which had been painted on an opposite wall by the great Ghirlandajo. In the latter reliance was placed on apparatus and books such as are used by the learned, says Vasari. But Botticelli resolved to dispense with such aids and to express the student by the treatment of his face alone. "In the countenance of the saint," writes Vasari, "he has clearly manifested that power of thought and acuteness of perception which is for the most part perceptible in those reflective and studious men who are constantly occupied with the investigation of exalted subjects and the pursuit of abstruse inquiries." Nevertheless, studious saints in their cells or cool hermitages were not the characteristic works of the artist. He delighted to express not only action but the momentary effects of actions. The Pope was able to realise the peculiar fitness of the painter when he summoned him to Rome to paint the walls of the new Sistine Chapel; a work, however, that is rather associated with Michel Angelo than Botticelli. It was arranged that he was to paint such scenes as the history of Moses, the Temptation of Christ, the punishment of Korah, Dathan and Abiram. In them the artist made use not only of rich colours but of gold, which was a favourite aid to him in the ornamentation of the robes of his figures and for other purposes.

Although according to tradition Sandro was not a model schoolboy, when he grew up he became attached to classical subjects. At the time there were numerous scholars in Florence who could aid him in such compositions. But the painter could never have succeeded to the extent which his pictures reveal if he had lacked the power of keeping in his mind's eye clearly and definitely the whole *dramatis personæ*. If such a scene as *Calumny*, which is an attempt to suggest a painting of Apelles on the basis of a description by Lucien, seems to a modern somewhat bizarre in treatment, it is because, from our acquaintance with statuesque figures in classic subjects, we cannot believe in so much dramatic movement as is represented by Botticelli. He has not only subjected the principal figures to his idea, but made the statues in the niches of the court lose their decorum and take an interest in the trial. Then again, in *The Birth of Venus* we see not only the goddess in her shell, but the Winds which waft her to the land and flowers which seem to fly around the goddess. His weird imagination is less restrained in his illustrations to Dante, which passed from London to Berlin. It may be that the liberty which he claimed as his right made him appear as an artist apart who had best be left alone in his waywardness.

We can well understand that when the religious revival in which Savonarola was the chief agent took place in Florence how Sandro Botticelli would be one of the foremost to suffer remorse. The Dominican was particularly severe on all those artists who had utilised classical legends for subjects. Botticelli had a weakness for splendid draperies, and his Madonnas sometimes resemble Eastern princesses. He was, therefore, one of the men whom the orator addressed when he said, "You introduce worldly vanities into the Church. Do you believe that the Blessed Virgin was adorned as you represent her? I tell you that she was modestly dressed, and so veiled that one could scarcely see her face." Botticelli became one of the Piagnoni, or followers of Savonarola, who had renounced worldly vanities, and he was among those artists who made the great sacrifice of burning their own works and their artistic treasures in the great fire in the Piazza dei Signori in 1497. The pile was pyramidal and had fifteen steps, on each of which were deposited objects of different kinds. Below were foreign tapestries, then figures and portraits of the fairest damsels of Florence, then dice, cards, books of music, lutes and other musical instruments, volumes by ancient and modern poets, carnival dresses, ivory and alabaster chessmen (to save which alone a Venetian offered 20,000 crowns), and other vanities. The spectacle was renewed the next year, and in the course of a few months, by one of those reactions which were common in Italian cities, Savonarola himself was reduced to ashes on the very spot where he believed he had exterminated all the aids and appliances of the new paganism.

Botticelli was undoubtedly sincere, more so, indeed, than other artists who thought they had repented. He not only sacrificed such paintings and drawings of his own as he possessed, but he resolved to abandon an art which he believed was a source of temptation to others. The few words of Vasari reveal a condition which was deplorable. "Sandro," he says, "abandoned all labour, insomuch that, finding himself at length become old, being also very poor, he must have died of hunger had he not been supported by Lorenzo de' Medici, for whom he had worked at the small hospital of Volterra and other places, who assisted him while he lived, as did other friends and admirers of his talents." It is also added that before he died he was unable to stand upright and was obliged to go about on crutches. The decrepitude must have taxed the patience of a man who prior to his conversion was joyous, and, like many other artists of the time, addicted to practical jokes. Indeed, in many of his pictures there are incidents which are evidence of the humourist who believed that comedy sometimes encroached on tragedy.

It is curious to find so many works by the painter turning up from time to time, although, as we have said, a century ago his name was almost unknown in England. It is not to be supposed that they were all created for the new market. There was a piquancy about Botticelli's works which soon after his death made them desired in Italy. Vasari says that for a long time afterwards the artists were eager to collect examples of his drawings. His pupils and followers found it to be more advantageous to produce "tondi" or circular panels of the Madonna and Angels, and to ascribe them to the master, than to invent works of their own. The result is that outside Florence it is difficult to say whether we have a genuine picture before us from the hand of Botticelli. Nor is Florence always able to produce evidence to prove that the examples with his name are not imitations. The *Simonetta* in the Pitti Palace has been compared with the *Mona Lisa* by Da Vinci in the Louvre. The woman is equally mysterious, without being so impudent a sphinx. But later investigators believe that the Pitti portrait is no more than a copy. With such an example before them, English collectors will be wise if they exercise caution before spending thousands of guineas on works ascribed to a master who at one time was imitated without much difficulty.

SOME RECENT LAW ON SEWERS AND DRAINS.*

Although the subject that I have chosen for the paper that I have the honour of reading to-night is one that makes no appeal to the æsthetic sense, yet it is one of practical utility. It has been said that an architect's professional equipment entails the knowledge of many professions and businesses. He must be an artist in his perception of form; a business man in his knowledge of cost and prices; a man of the world in his dealings with his clients; a student of hygiene, and in addition a lawyer in his knowledge of building contracts and sanitary law. It is only on the latter subject that I can venture to address you, and I have chosen a branch of the law to which I have recently had occasion to devote some attention, namely, the law of sewers and drains.

This has been a fascinating study, and since it is one that caused the judicial bench to constantly complain of the draughtsmanship of certain sections of the Public Health Act, 1875, and the Public Health Acts Amendment Act of 1890, in their attempts to define what is and what is not a sewer, and what is and what is not a drain, I think you will agree that the law is not particularly easy. My object to-night is not so much to examine the cases nor to criticise them, but to state results and to tell you what the effect of the recent decisions is, so that you can translate them into practice, and, if called upon to intervene in the interesting arguments that occasionally take place between clients and the local authority, as to who is to pay for the repair of the thing, pipe, or conduit, or whatever you like to call it for the purpose of avoiding the term sewer or drain, at any rate you may have a knowledge of the recent cases on sewers and drains. My subject to-night, however, travels beyond the Public Health Act of 1875 and the Amendment Act, for it includes a few decisions on metropolitan sewers and drains. I propose, therefore, to consider these first, and then to pass on to the subject of extra metropolitan sewers and drains, or sewers and drains under the Public Health Act, 1875.

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* A paper read before the Society of Architects on May 17, by Arthur P. Poley, Barrister-at-Law.

Now, I suppose most people who study the question at all are familiar with Section 250 of the Metropolis Management Act of 1855. It runs :—"It is provided that in the construction of the Act that the word 'drain' shall mean and include any drain of and used for the drainage of one building only, or premises within the same curtilage, and made merely for the purpose of communicating with a cesspool or other like receptacle for drainage, or with a sewer into which the drainage of two or more premises occupied by different persons is conveyed, and shall include any drain for draining any group or block of houses by a combined operation under the order of any vestry or district board [for which we may now read the order of any borough council], and the word 'sewer' shall mean and include sewers and drains of every description except 'drains,' to which the word interpreted as aforesaid applies." Now the drain is to drain one building only, or premises within the same curtilage; if it drains more than one building it is a sewer, and if you can say that on examination of a system of drainage that the drainage drains two buildings, unless there is an order of a vestry or district board in existence, or something else which is not an order, but which judicial ingenuity has said is an order, you may safely say that the so-called drain is a sewer which the local authority are bound to keep in order. I call attention to judicial ingenuity, for I imagine anyone who knows anything of what sanitarians set before themselves in 1855 will know that their ideal was one house one drain; they did not intend that a loose practice should grow up or be sanctioned of combined drainage in respect of new houses, except under special circumstances. If there was to be combined drainage it was to be under proper safeguards, and it was to be made by the order of the vestry or district board.

Now, there were a number of old houses in existence in 1855, where there was already a system of combined drainage, and in respect of these a case of difficulty arose. They were built before the passing of the Act of 1855, and therefore there could be no order of a vestry or district board in respect of them; therefore, by reason of the definition of a sewer as one that drained two or more houses, these drains were sewers. The Legislature said it was never intended that the drains of all these houses should be sewers repairable by the vestry or district board, so we will make that clear by an amendment Act. Accordingly the Act of 1862 was passed, and it declared that the word "drain," in addition to the definition I have already read, should include "any drain for draining a group or block of houses by a combined operation laid or constructed before January 1, 1856, pursuant to the order or direction or with the sanction of the Metropolitan Commissioners of Sewers," who were created under that title in 1848. Therefore, in determining whether a drain draining two or more houses is a sewer, it is material to notice whether the houses were built before 1848; if they were, you may be certain that the so-called drain is a sewer. If between 1848 and 1855, if there is no order or direction or evidence of the sanction of the Commissioners, then you may be also certain that the so-called drain is a sewer. If the drain draining two or more buildings came into existence subsequently to 1855, you must not lightly think that there need be an order of a vestry or district board in existence, as the Act in express words says, "There may be evidence of an order," which the judges have said is just as good as an order.

Now, an "order of a vestry or district board" was a very formal thing, but evidence of an order may be a very slight and informal thing. Thus, for instance, in 1898, in Geen *v.* Newington Vestry, the Divisional Court said that an order was evidenced by the production of the plan book from the surveyor's office, with a note plan viewed by a man named Goatman, who was the foreman under the then surveyor, who was called as a witness. There was no minute of the local authority, but the plan had been found in the plan book of the vestry. Under these circumstances the Court thought it was not unreasonable to conclude that the plan had received the requisite sanction, and that the vestry had allowed a combined system of drainage to be constructed. The last case on the subject was one in 1903—High *v.* Billings; there the evidence was that there was a plan book in which an application to drain by combined operation was entered. It was signed as approved by the surveyor, but unfortunately for the local authority they had resolved that the surveyor should be authorised to grant applications for house drainage, and since they had expressly delegated their powers, they could not have been presumed to have exercised them.

In 1904, in Heaver *v.* Fulham Borough Council, Mr. Justice Channell, commenting on the nature of a plan and the order made thereon for combined drainage, said :—"Having regard to the fact that the details as to the way in which the drainage was to be constructed were omitted from the plan, and that no further plan was subsequently submitted to the vestry, it seems to me that the fact that the vestry gave their sanction to a plan for draining two houses in combination, which did not show how the particular drains from each water-closet or sink were to be constructed, in itself amounts to an authority to their surveyor to deal with those matters of detail." I am not expressing a view one way or the other as to whether the learned judge was right or wrong in so holding. I want to sum up the cases as they stand, and I think I can safely recommend any architect called in to advise on the point as to whether a drain is a sewer or not, to examine what the evidence is in the surveyor's office of a metropolitan borough council before he expresses an opinion on the subject as to whether there is an order or not. If there is no note of a surveyor's approval nor a minute of a vestry or district board in existence, as in a case I was called upon to advise, I think we may safely say there is no order, nor is there any evidence of an order, and if the drain drains two or more buildings it is a sewer. The next point to ask is, What is a building? Two houses may constitute one building, a pair of semi-detached villas in fact; this was so decided in Humphrey *v.* Young in 1903.

Another question that sometimes crops up is whether the premises are in the same curtilage. This is a question which largely depends upon the facts. The last case upon this point was Harris and Others *v.* Scourfield, which you will find in the "*Times*' Law Reports," Vol. 26, p. 268, decided in the latter part of 1904.

A practical matter of some difficulty often arises where three or four or more houses are drained by one drain, and by reason of there being no order or evidence of an order in existence, the drain is a sewer. The question is as to whether any part of the sewer is a drain or not. Let me take a case of three adjoining houses, numbered 1, 2 and 3 respectively, No. 1 draining into No. 2, and the joint drainage of 1 and 2 passing into No. 3. Is it a sewer from end to end? The answer is no. A pipe receiving the drainage of more than one building, not being premises within the same curtilage, is a sewer from and below the point where it receives the drainage of more than one such building; above that point it is a drain and not a sewer. In Beckenham District Council *v.* Wood, 1896, 60 J.P. 490, Mr. Justice Cave said :—"The general rule, as I understand it, is that where a drain receives the sewage of two or more houses it is a sewer; where it receives the sewage of one house only it may still remain a drain, though not necessarily, because it may be a sewer, whether it takes the sewage of one house only or no house at all. A main sewer may be laid down by the local authority in a new street where no houses are built, but where it is intended houses shall be built. Subsequently the buildings may be commenced at the lower end of the street, and when the drains of one house are connected with the main sewer the connecting pipes will be drains and not sewers; but the sewer itself will no less continue to be a sewer, although it receives only the drainage of that one house, and consequently a sewer without a drain at all will be a sewer."

There is another matter to which I should like to allude before passing on to sewers and drains outside the Metropolis, and that is the unauthorised connection that builders sometimes make, when the local authorities are careless in their supervision. Now it would be very unfair that a builder who made such an unauthorised connection should turn round and say, when the drains required repairing, "I know this is an unauthorised connection. I admit I made it, but having made it between these two houses I have made a sewer, and you know it is not my business to repair a sewer." He cannot, however, act in this way, for it is a legal maxim that no one can take advantage of his own wrong, and a builder who made such a statement would be told that he would be stopped from raising such a defence. A late case has carried the principle a little further. Heaver *v.* Fulham Borough Council, 1904, 2 K.B. 383, decided that not only can the builder not raise it, but those to whom he has conveyed the property by voluntary conveyance cannot raise it, nor could the builder's executors or administrators; the best advice that one can give to a builder who has made an illegal connection between houses and, in fact, has constructed a sewer, is to get rid of the property as speedily as possible. A purchaser who buys it will be able to take advantage of the builder's wrong, unless he chooses to be too inquisitive and wants to know all about it. As long as he is ignorant he is an innocent purchaser, and this is one of those cases "where ignorance is bliss, 'tis folly to be wise."

I must now turn to the subject of sewers and drains outside the Metropolis, and here it will be found that the recent decisions have been most important. The principal cause of trouble has arisen by reason of Section 19 of the Public Health Acts Amendment Act, 1890, which provides that where two or more houses belonging to different owners are connected with a public sewer by a single private drain, an application may be made under Section 418 of the Public Health Act, 1875 (relating to complaints as to nuisances from drains) and the local authority may recover any expenses incurred by them in executing any works under the powers conferred on them by that section from the owners of the houses in such shares, and proportions as shall be settled by their surveyor, or (in case of dispute) by a court of summary jurisdiction. For the purposes of this section the expression "drain" includes a "drain used for the drainage of more than one building." Now, what does "private" mean? Well, it has been decided in Thompson *v.* Eccles Corporation, 1904, 2 K.B. 1, that "private" means a drain constructed on private ground, and private is not used by way of contrast to public, a view which had found acceptance with many of the judges; therefore, where two or more houses belonging to different owners are connected with a public sewer by a single drain constructed on private ground, the section applies, that is to say, the machinery of the section can be employed to make the owner of that portion of the land through which the private drain, which is out of repair, runs, put it in repair, or the local authority can do the work themselves in default of the owner and charge him with the costs.

Now, I think we can dismiss any idea as to whether the single private drain is a sewer or not. According to the judgment of Lord Russell, C.J., in Bradford *v.* the Eastbourne Corporation, which the Court of Appeal followed in the case of Thompson *v.* the Eccles Corporation, the private drain is a sewer, and as such vests in the ordinary way in the local authority, but it is divested for the purposes of section 19, and for these purposes only. Now the term "vest" is one with which lawyers are familiar in connection with roads. The surface of a road vests in the local authority, but the soil is the property of the freeholders on each side of the road, and if it should happen that the local authority abandoned the road the surface would revest or belong once more to the freeholders; when this is understood it will be understood that the ordinary obligation of repairing a sewer, which under Section 13 of the Public Health Act, 1875, vests in the local authority, is transferred or divested for a special purpose, and as soon as that purpose is fulfilled the single private drain draining houses belonging to different owners revests in the local authority again. Now, supposing that you discover the following state of things:—A row of twelve houses belonging to one owner, each of the houses in the row draining at the rear into a pipe or conduit, and at a break in the row houses belonging to different owners, still a continuation of the row, also draining into a pipe or conduit in the rear, and a single private drain running at right angles to these pipes or conduits through the break in the row draining the drainage of all the houses into a public sewer. Is the pipe or conduit at the rear of the twelve houses, which would be a sewer by reason of the definition of a sewer, and not within the exception in Section 19 of the Act of 1890, not a sewer because it drains into a single private drain? The Wimbledon Urban Council in the case of Jackson *v.* the Wimbledon Urban Council, 1905, 2 K.B. 27, raised this contention. They said that since the sewage of all the houses ultimately traversed the single private drain, Mr. Jackson, who was the owner of the twelve houses I have given in the illustration, was liable for the non-repair of his pipe or conduit. The Court of Appeal said no. The place to be repaired could not be brought within the definition of a single private drain, merely by reason that sewage which was carried along it passing at some other part of its course through what could be properly called "a single private drain." Lord Justice Mathew said:—"The argument for the District Council is that, assuming that the pipe which carries the drainage of the twelve houses belonging to the plaintiff was a sewer before the passing of the Act of 1890, its nature has been changed, because its drainage passes into what is admittedly a single private drain. I cannot find in the Act an intention to make such a change." There is one remark that I should like to make before passing on to the next case, and that is that I am not sure that Mr. Jackson was right in admitting that the so-called single private drain was a single private drain at all, but he did make the admission, and so we get a statement of the law that such a thing can happen as a sewer discharging into a single private drain.

The next case that I should like to refer to is that of Joseph *v.* the Wood Green Urban District Council, which was decided in August last year, and there the point that Mr. Jackson admitted was contested by Mr. Joseph. There was a common pipe, which ran on private ground behind a row of sixteen houses; six of these houses, belonging to the respondent, Joseph, drained into this so-called private drain or pipe, but the houses did not possess single drains, but were drained in pairs, the drains of each connecting at the rear and thence running into the common pipe, which discharged into the public sewer. Now, after the drains of each pair of houses had connected in the rear, the length of pipe which communicated with the alleged single private drain or pipe was a sewer. So you had six houses draining in pairs by three sewers into the alleged single private drain. Could the alleged single private drain be a single private drain under these circumstances? The Court thought not. In vain was it argued that the case was on all fours with that of Bradford *v.* the Eastbourne Corporation, 1896, 29 Q.B. 205, and Thompson *v.* the Eccles Corporation, 1905, 1 K.B. 110. The Court distinguished it. The Court were of opinion, although the law reports were silent on the matter, that in these cases each house had a separate drain draining into the single private drain. Anyhow, they decided that the alleged single private drain by reason of these three sewers discharging into it was not a single private drain at all, but a sewer. I believe the Wood Green Urban District Council have now a private Act, so that the fight Mr. Joseph fought is one which will not make him a benefactor to others in a like position with himself in Wood Green. Nevertheless, he may be credited with having cleared up another knotty point on this vexed question.

I should like now to pass from section 19 to refer briefly to some cases which are decided on the words of the definition of sewer and drain in the Public Health Act of 1875. Now, the definition of drain is substantially the same as that I have already read in connection with this word under the Metropolis Management Act of 1855; but the word sewer includes sewer or drains of every description, except drains to which the word drain interpreted as aforesaid applies, and except drains vested in or under the control of any authority having the management of roads, and not being a local authority under the Act. In other words, if you have not got a drain within the meaning of the definition of a drain, or a drain vested in or under the control of a road authority, your drain is a sewer, because every drain not within the excepted classes is a sewer. Therefore, if a house drains into a pipe, and the pipe receives the drainage of a field, the pipe from the place of junction is, or should be, a drain which, not coming within the exceptions, is a sewer. A recent case, the Wincanton Rural District Council *v.* Parsons, 1905, 2 K.B. 34, decides the contrary. The case has considerably puzzled me, and with very great respect to the learned judges who decided it I doubt its soundness. Nevertheless, there it is, and architects called in to advise in respect of country houses where a similar state of things exists will do well to make a note of it.

There are so many other interesting questions that I should like to touch upon if time permitted and I were not afraid of wearying your patience. There are the London County Council by-laws and the by-laws of the Metropolitan Borough Councils, the by-laws under the Public Health Act, 1875, all of which I suppose you are more or less familiar with. Occasionally a case on this subject finds its way on appeal from justices or a magistrate to the King's Bench Division, but the construction of these by-laws is not of sufficient general interest to touch upon to-night. There are the questions of responsibility of local authorities in the construction of their works for nuisances; the time when a stream ceases to be a stream by the influx of the drainage of houses, becoming a sewer; sewers made for private profit, and other matters on which there have been more or less late decisions; but I cannot deal with these to-night. In my rapid survey I am aware that I have omitted to deal with many cases which will occur to you; I trust you will pardon me for the omission. I have chosen what I thought would be most useful to you and interesting, and if I have been of the slightest service to any of you I shall feel well satisfied, and shall feel that any little trouble that I have taken has been well repaid.

BEAUTIFYING LIVERPOOL.

In furtherance of the idea that a society should be formed to promote beauty and dignity in the development of Liverpool a circular letter signed by Mr. Taliesin Rees, hon. secretary *pro tem.*, has been addressed to the Architectural Society, the Medical Society, the Philomathic Society, the Historic Society of Lancashire and Cheshire, the Law Society, the Ruskin Society, the Kyrle Society, Liverpool Academy of Arts, students of School of Art, students of University School of Architecture, Artists' Club, Liver Sketching Club, Press Club and other bodies. In this letter Mr. Rees says:—

In the minds of most citizens of Liverpool a profound impression has been created by the recent devastation of one of the most beautiful districts of Liverpool—the neighbourhood of Aigburth Road—and the opinion has been freely expressed that such vandalism might have been avoided had a better appreciation existed amongst the people generally who compose the citizens of Liverpool of the great value to their health and happiness of beautiful and dignified environment.

The acceptance of such a principle carries with it the consideration of many cognate subjects, such as the control of advertising, the more far-seeing laying-out of streets and open spaces, parks and buildings and the avoidance of architectural development such as would be out of harmony with its surroundings.

For the discussion of these matters, and for the furtherance of the objects in view, it has been proposed at a members' meeting of the Liverpool Architectural Society that a Society should be formed for the promotion of beauty and dignity in the development of our city.

In order to enlist the sympathy of all the citizens of Liverpool, and to enable them to join the Society, it is intended to form a council of management comprised of delegates from all the art, commercial and learned societies, together with prominent citizens of Liverpool—not more than three delegates from each society—and from this body to elect a small executive committee to carry out the policy of the larger council.

The subscription it is intended shall be, say, 1*s.*, or at most 2*s.* 6*d.*, in order to enlist membership of the Society among all classes. This letter is merely tentative, and we should thank you to bring it formally before the notice of your committee for an expression of opinion whether, upon the formation of such a Society, they would be willing to appoint delegates to represent your society.

Following the issue of this circular, with a desire to learn more of the movement and its object, a representative of the *Liverpool Courier* sought Mr. Edmund Rathbone, who is a leading spirit of the new departure, and at the Wayside Café, the meeting-place of these conspirators against ugliness, some information was elicited. Mr. Rathbone said the people of Liverpool and other large towns have long ago demanded and secured certain desirable things, such as a good water-supply, approved drainage, wide roads, open spaces, convenient tramway service and efficient police protection, and we now want the democracy to consider æsthetics as a necessity of city life, and to rouse them up to such a pitch that they will not be happy till they get them.

"Is it a new idea?" "Not at all. It is somewhat new in England as an organised force, although it has, of course, for many years past occupied the attention of men and women who make æsthetics a study. In America and on the Continent it is a question that is kept well to the front. The great mass of the people hate dinginess and ugliness and love colour, and we want to manage, if we can, to remove all drabness and dirt and introduce all the light and colour possible. Look what a crowd follows a band in the street, however bad, and what a turnout of citizens you get to look at a May-day procession. Why? Because of its colour and gaiety. Why should the colour sense be gratified once or twice a year only? Why not have colour about all the time.

"Do we propose enactments to enforce beauty? That would hardly be possible, though if by-laws are necessary let the people, through their representatives, demand such. What we are aiming at is to make every citizen and citizeness a missioner of the beautiful. Let each one, whatever station of life they occupy, keep the beautiful in view in all they do, and if we can only get that mighty inert mass, the public, who can never be roused to a full sense of the power they are able to wield, to say, 'We are citizens of no mean city,' and to feel proud of the place they live in, they will speedily resent any action that will have any marring effect on the beauty of the city which should and will be their pride.

"Have we any outline of programme? Well, the idea is in such embryonic form at present that none has yet been formulated. Lectures will probably be given, and excursions to other towns and villages to see what they have to show for beauty will no doubt be arranged. I think the old rule of everyone sweeping before his own door would be very beneficial in this question of æsthetics. If all men and women did what they could in their own homes it would have a great effect. For instance, it should be considered an offence to poison the atmosphere by emitting unnecessary quantities of smoke, and in many other ways the private householder could greatly assist the idea of the City Beautiful.

"Do I suggest municipal building schemes? No; the private capitalist is the man to be looked to for the City Beautiful. The private builder has given us Port Sunlight and Bournville, and there is no reason why the private capitalists should not find a reasonable investment in attractive city dwellings; and if we can only arouse the people to a sense of the fitness of things, they will refuse to live pent up in mean streets and demand something more artistic and attractive, and the demand will create the supply. For the present we shall have to be content with criticism, oral and written, and the spreading of our propaganda. It will take time—a long time perhaps—to make any visible impression, but if we persevere I have no doubt we shall succeed in banishing ugliness from everything, and converting the one-time black spot on the Mersey into a City Beautiful."

The Pastel Society have elected the following members:—Messrs. A. L. Baldry, Lewis Baumer, Simon Bussy, W. Lee Hankey, Evert Moll and Le Gout-Gérard.

Mr. Henry E. Stilgoe has been selected by the Birmingham public works committee for recommendation to the City Council at their meeting on the 22nd as surveyor to the Corporation, at a salary of 1,250*l.* per annum. There were fifty-three applicants. Mr. Stilgoe is thirty-nine years of age and he has held his present appointment of borough engineer and surveyor at Dover for upwards of eleven years, his salary being equal to 1,000*l.* a year. He served his articles with a firm of railway engineers and for two years was a student at the Crystal Palace School. For six years he was assistant surveyor to the Lewisham Board of Works, and then, after being employed for a short period at Sandgate, he removed to Dover. He has had a large and varied experience in connection with sewage works and also in Parliamentary and arbitration cases.

The West Sussex Education Committee last week considered the appointment of an architect and draughtsman. It had been previously decided to appoint such an official, as it was expected to result in a considerable saving. No fewer that 223 applications were received for the post, and after interviewing three selected candidates the sub-committee recommended the appointment of Mr. Haydn Roberts, of Roath, who was twenty-six years of age, and had been staff architectural assistant to the Glamorgan County Council since June 1904, and was formerly under the London County Council. The salary was 120*l.*, exclusive of expenses. The secretary said they paid 66*ol.* in architect's fees, &c., in the first year. The sub-committee's recommendation was adopted.

NOTES AND COMMENTS.

A meeting of the Chapter of Chichester Cathedral was held on the 10th inst. One of the subjects which engaged attention was that the Arundel screen, which for several years has been temporarily placed in the lower part of the detached bell tower or campanile, should be set up in the north transept, and that Dean Hook's tomb should be placed beneath it. Some of the old inhabitants of Chichester may be alarmed at the proposal. John Arundel was a very quiet bishop who presided over the see from 1459 to 1478. He had erected a shrine or screen which stood between the western piers of the central tower. Dean Chandler, who died in 1859, left 2,000*l.* for the improvement of the choir. It was decided in the first place to remove the Arundel shrine, which helped to separate the nave from the choir. In the course of the operations it was discovered that the screen must have helped to buttress the piers, which, like those of some churches, consisted of a casing of ashlar to a core of rubble. It was necessary to adopt measures to preserve the central tower from risk; but the weight was too much for the new masonry, and in February 1861 it became apparent that a catastrophe was impending. It occurred on the 21st, but without any accident either to workmen or to spectators. Professor Willis came to the conclusion that owing to the disintegration of the piers no human power could have arrested the fall. Six years afterwards the present tower and spire were completed at a cost of about 60,000*l.* The Arundel screen may have delayed the accident, and it can now be restored to a different position without any apprehension of the consequences.

The Town Council of Yarmouth have shown an appreciation of their surveyor's services which should be recorded as an example to other corporations. As is evident at the present time in Dundee, the performance of extra services is not recognised as work which in strict equity could be declined. In Yarmouth the borough surveyor prepared the plans and other work required for application to Parliament for approval of the tramways. If the work had been done by an outside engineer the cost would have been at least 1,000*l.* He superintended the construction of 12½ miles of tramway by direct labour. If a private practitioner had been employed the cost would have been about 6,000*l.*, and the contractor's profit would have ranged from 8,000*l.* to 12,000*l.* He was also able to save royalties on an improved rail amounting, say, to 1,100*l.* In return for saving the ratepayers over 15,000*l.* it was proposed to present the borough surveyor with an honorarium of 500*l.* Yet when the subject came up for consideration at the last meeting of the Council two of the members opposed the proposal. Practically, however, the grant of the money was unanimous. If the opposition had succeeded other places might suffer, for borough surveyors might hesitate before they added to their labours, when they remembered that there was a possibility that the saving of a considerable sum brought them no reward. Indeed, it often seems surprising that borough engineers will go beyond the limits of their duty under such circumstances. We suppose the main satisfaction is the demonstration that they possess the power of conducting a Bill through Parliament, and carrying out works, in the expectation that in that way their fitness for office in a larger town will be conclusively shown.

ILLUSTRATIONS.

ROMAN CATHOLIC CHURCH, TONBRIDGE.

We publish this week a photograph of the interior of the above church, which has now been completed upon a commanding site in Lyons Crescent, Hadlow Road, from the design of Mr. W. Barnsley Hughes, of 31 Craven Street, W.C. An illustration of the exterior appeared in our issue of July 10, 1903. The church is of simple Early English character, dignified and well-balanced. Accommodation is provided for about 350 seats in the nave and sixty in the chapel. There is a triforium above each aisle and a gallery over the narthex, constructed with concrete and steel joists, providing accommodation for some 100 worshippers in case of necessity. The roof construction is simple yet of a pleasing character; the principals are lattice steel-framed and carried down the main walls about 10 feet, filled in with timber in half-circle with moulded timber ribs bolted on, which construction renders the acoustic properties of the building perfect. The building is complete with clergy and choir sacristy at the north angle with crypt beneath provided for heating accommodation. The cloister from presbytery to church is a convenient feature which is of great advantage to the priest in residence.

Structurally, the church is carried out in red brick relieved with Bath and Portland stone. The face-bricks internally were supplied by Mr. G. Riches, of Cromer, especially selected for their mellow and uniform tone of colour, which, with the black pointing, presents a rich appearance. The bricks for the general construction and external facings were supplied by the Quarry Hill Brick Company, Tonbridge; steel construction by Homan & Rodgers, of Gracechurch Street, E.C.; and glazing throughout by Wm. Morris & Co., Westminster. The altar decoration is by Mr. E. B. Lamb, Craven Street, London. The builders and contractors, to whom the architect is desirous of giving every credit, are Messrs. Martin & Co., of Tonbridge; and for beautifying the church in many details kind friends of the congregation are responsible, for which Father Walsh, the priest in residence, expresses gratitude.

25 AND 26 BERKELEY SQUARE, W.

The accompanying illustration shows a perspective view of the front elevation of the above flats now nearing completion, which have been designed to create the impression of a large town house, and not giving any one flat prominence over the others. The building when completed will form, with the palatial block at Hyde Park Place by the same architect—whose design we illustrated in the issue of *The Architect* for January 12, 1906—an important addition to the reconstruction of this part of the Metropolis, as an endeavour has been made in the direction of a distinct advance on the ordinary type of architecture employed for London flats and houses. The front elevation is five storeys high, and is composed of a main projecting centre flanked by two short wings; the windows on the front portion are grouped into three bays, connected at the top by a continuous railing; the whole building surmounted by a rich console, cornice and balustrade. The materials employed for the elevation are brown Portland stone with wrought-iron railings. The contractors are Messrs. Mark Patrick & Son, and the work has been carried out from the designs and under the superintendence of Mr. Frank T. Verity, F.R.I.B.A., 7 Sackville Street, London, W.

MASONIC INSTITUTION FOR BOYS, BUSHEY, HERTS: DINING-HALL.

The architects for this large group of buildings are Messrs. Gordon & Gunton.

CATHEDRAL SERIES.—TRURO: THE SANCTUARY, HIGH ALTAR, REREDOS, AND SEDILIA.

NAVAL BARRACKS, CHATHAM.

The view of the above building, which was published last week, was by error ascribed to Sir Aston Webb, R.A., to whom we offer our apologies.

CAMBERWELL AND DULWICH.*

ANCIENT and prehistoric London was approached by three entrances—one from the south, another from the east and the third from the west; the fourth outlet, called the Great North Road, was afterwards laid out by the Romans. At the three entrances were afterwards placed three churches, each one dedicated to St. Giles, the patron saint of cripples and the unfortunate. That at the eastern entrance was called St. Giles, Cripplegate, and that at the west entrance was named St. Giles-in-the-Fields, or, as it is now called, St. Giles, Soho; adjacent to each of these churches there were placed hospitals for lepers or cripples. At the third or south entrance into London was situated the church of St. Giles, Camberwell, the three churches thus forming, as it were, a triangle, the symbol of the saint, representing the three cities or bishoprics of London, Westminster and Southwark, our *tria juncta in una*, representing our great Metropolis.

In the volume of the Upper Norwood Athenæum Transactions for 1882 appears a note by our then editor, Mr. Michael Pope, F.S.A., as follows:—"St. Giles is the patron saint of beggars or cripples. In the entrance of many towns in England a church is dedicated to his memory, at which cripples and beggars were wont to solicit alms. Hence St. Giles, Cripplegate, in London, and St. Giles, Camberwell, the word 'camber,' or kimbo, meaning crooked or crippled." These words were repeated from a similar paragraph written by Mr. Pope in *Notes and Queries*. I quite concur with Mr. Pope as to the etymology of the word Camberwell, as to its connection with cripples and some well in this locality, the site of which has, however, been lost. I have made careful inquiry, but cannot find that there ever was a hospital for cripples or beggars near the church at Camberwell similar to those I have just mentioned adjacent to the other two churches of St. Giles. It is quite certain that a church stood here in Saxon times, as it is referred to in Domesday Book.

The extracts from Domesday in reference to Camberwell are as follows:—"The land of Haims the Viscount: in Brixton three hundred. Haims himself holds Camberwell. Norman held it of Edward the Confessor. It was then taxed for twelve hides. Now for six hides and one virgate. There are six carucates of arable land. Two are in demesne, and there are twenty-two villains and seven bordars with six carucates. There is a church, and there are sixty-three acres of meadow. The wood yields sixty swine. In the time of King Edward it was valued at 12*l.*, afterwards at 6*l.*, and now at 14*l.*" The next extract refers to Peckham. "The Bishop of Lisieux holds of Odo, the Bishop of Bayieux, Pecheham, which Alfleda held of Harold in the time of King Edward, when it was included in Patricesy (Battersea). It was assessed then, as at present, at two hides. The arable land is one carucate. There are one villan and three borders, and two acres of meadow. It is valued at thirty shillings, as it was in the time of King Edward, but when received at twenty shillings." William Harnett Blanch, in his "History of Camberwell," says:—"The church was probably built about the seventh century. Camberwell was formerly one manor; soon after the Conquest it was divided, and eventually became several distinct manors. That of Camberwell Buckingham, sometimes called Camberwell and Peckham, which was held of the king in capite, belonged to Robert de Melhent, natural son of King Henry I., first Earl of Gloucester, after the Conquest, to whom it was probably granted by his father."

He it was who supported his sister the Empress Maud or Matilda in her struggle with Stephen for the possession of the Crown of England. The manor passed after his death with his title successively to his son William and to John (son of Henry II.), afterwards King of England, who married Isabella, one of the daughters and co-heirs of William; then to Isabella's second husband Geoffrey de Mandeville; then to Almeric de Evereux, son of Mabel, another co-heir of Earl William; then to Gilbert de Clare, son of Amicia, another of the co-heirs; then to his son Richard and his two immediate descendants, both Gilberts; and next to Hugh, Lord Audley, who married Isabella, sister and heiress of the last Gilbert.

Hugh, Earl of Gloucester, died in 1347, and his daughter and heiress Margaret married Ralph, first Earl of Stafford, who thus became possessed of the manor of Camberwell, and it continued in his family till the attainder of Edward Stafford, Duke of Buckingham, in 1521. It was afterwards granted to John Scott, who had been the Duke's tenant. His grandson Richard left the manor between his five sons. Edgar alienated his share in the year 1586 to Edmund Bowyer, Esq., and it became by inheritance the property of Joseph Windham, Esq., of Earsham House, Suffolk. The other manors were alienated afterwards to the Cock family. Respecting the church, in Bishop Edindon's Register at Winchester is a commission dated 1346 for reconciling Camberwell Church, which had been polluted by bloodshed. In "Lysons's Environs of London," printed and published in 1811, it says "the present structure appears to have been erected towards the beginning of the reign of King Henry VIII., and it is very probable that the north aisle was built in 1520, having had that date in each window." In the east window of the north aisle were several portraits of the Muschamp family, dated 1520; a branch of this family came over with William I., commonly called the Conqueror, who being settled at Peckham, their burial-place was in this aisle, where Lysons says there was still a monument erected to one of the family. On this monument was the following inscription:—

> Lo! Muschas stock a fruitfull braunch did bringe
> Adornde with vertues fit for ladies brighte
> Sir Thomas Hunt on May day's pleasaunt spring
> Possest the Frowe that was his soul's delight.
> His lovely Jane had two sons by Thomas Grimes, Esq.;
> and daughters three
> With wealth and vertues meet for their degree,
> With twice seven years, six months, ten days were spent
> In wedlock bands and loyall love's delight,
> November 12th daye then she was content
> This world to leave and to give to God his right,
> Her sixty-three years full complete and ended,
> Her soul to God, to earth her corps commended.
> 1604.

In the reign of James I. a free grammar school was founded in this parish by the vicar, the Rev. Edward Wilson, and endowed with 7 acres of land. Old St. Giles Church was burnt down on Sunday night, February 7, 1841. The new church was soon afterwards commenced from designs by the architects, Sir George Gilbert Scott, R.A., and Mr. William Moffat, his then partner; it is a very handsome structure, and is one of the largest built in England since the Reformation. It was consecrated November 21, 1844. A very good illustration of it appears in *The Architect*, August 4, 1893. A number of the brasses in the old church have been preserved and fixed in the choir of the present one. Some illustrations of these will be found in Blanch's "History of Camberwell." A handsome chalice cup dated 1597 is preserved and is illustrated in the fourteenth volume of the "Surrey Archæological Transactions," with a description by the Rev. T. S. Cooper, F.S.A., as follows:—"This is a graceful, well proportioned vessel, and very characteristic of its period, with V-shaped bowl and baluster stem. On the bowl and upper part of the foot are incised representations of drops of blood apparently. Two shaped discs divide the stem, and there is a band of egg and tongue moulding on the foot, a band of somewhat similar work appearing round the collar in which the bowl is set."

Dulwich.

Lysons says the first mention of Dulwich is in the year 1127, when the manor was given by King Henry I. to Bermondsey Abbey. At the suppression of the monasteries it was given to Thomas Calton, and in 1606 was alienated to Edward Alleyn, Esq., and by him afterwards given to the college which he founded at Dulwich. He styled it "the College of God's Gift," and it was founded in 1619. He was a well-known actor at that time and friend of Shakespeare and Ben Jonson, and was the proprietor of the Fortune Theatre in Cripplegate and the Rose on Bankside. He was born September 1, 1566, in the parish of St. Botolph, Bishopsgate, and was the grandson of Thomas Alleyn, of Willen, Buckinghamshire, and of Mesham, Bedfordshire. Edward Alleyn, the second son of the said Thomas Alleyn, and the father of the founder of Dulwich College, was an innholder, and kept the Pye, in Bishopsgate. He had two other sons, John and William. Their mother was Margaret, daughter of John Townley, Esq., of Towneley, in Lancashire. In "Fuller's Worthies" we learn that Mrs. Alleyn was married a second time to an actor of the name of Brown, and it is owing to this circumstance, doubtless, that young Alleyn was bred a stage-player. That he attained great success as an actor at that time beyond all others cannot be disputed, as Fuller describes him as "the Roscius of our age, so acting to the life that he makes any part (especially a majestic one) to become him." Rare Ben Jonson is also very emphatic in his praises of Edward Alleyn. The earliest record that we have of his connection with the stage is January 3, 1589, when he bought for 37*l.* 10*s.* the share of "playing apparels, play-books, instruments and other commodities." In 1592 he appears to have taken front rank in his profession, as in a piece which came out at that time he is twice mentioned as a performer of deserved distinction.

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* A paper by Mr. W. F. Potter, architect, read at a meeting of the Upper Norwood Athenæum on March 24.

Edward Alleyn was married to Joan Woodward on October 22, 1592. She was the daughter of the wife of Philip Henslowe, who had married Agnes Woodward, a widow. It is not improbable that Alleyn's wife possessed property in her own right, as four years after his marriage he entered into an agreement whereby he was to receive "4,000*l.* of lawful money of England" for the lease of the parsonage of Firle, in Sussex, a county with which his wife's father had been connected. Immediately after his marriage he appears to have taken up his residence on Bankside, in the Liberty of the Clink, in St. Saviour's parish, near to the Hope, Globe and Rose theatres. Henslowe had become connected with the Bankside theatres shortly before Alleyn's marriage; and about the time this took place a partnership in theatrical concerns was concluded between Henslowe and Alleyn, and they afterwards became jointly interested in the theatres of the Rose on Bankside and the Fortune in Cripplegate. Alleyn's theatrical career received a sudden shock in the Metropolis in 1593, when the plague broke out in London, and he and his company started on a strolling trip through the country. His wife remained with her mother and sister at the Bankside, when the following letter (preserved at Dulwich College) was written by him during his travels abroad:—

"To E. Alline, on the bankside.

"My good sweete harte and loving mouse, I send the a thousand comendations, wishing thee as well may be, and hoping thou art in good helth, with my father, mother, and sister. I have no newes to send thee, but I thank God we ar all well, and in helth, which I pray God to continew with us in the contry, and with you in London.

"But mouse, I littell thought to hear that which I now hear by you, for it is well knowne, they say, that you wear by my lord maiors officer mad to rid in a cart, you and all your felowes, which I ame sorry to hear; but you may thank your ij supporters, your stronge leges, I mene, that would nott cary you away, but lett you fall into the hands of such Tarmagants. But, mouse, when I com hom, I'll be revenged on em: tell when, mouse, I bid thee fayerwell. I prethee send me word how thou doste, and do my harty comendations to my father, mother and sister, and to thy own self, and so swett harte, the lord bless thee. From Chellmsford, the 2 of Maye 1593.

"thyn ever, and nobodies els, by god of heaven
"EDWARD ALLEYN.

"Farewell mecho mousin, and mouse,
and farewell bess dodipoll."

Harnett Blanch says, "Dr. Dodipoll was a character in a play of that time, and hence perhaps the nickname."

There is also another letter, written from Bristol August 1, 1593, preserved in Dulwich College and printed *in extenso* in Harnett Blanch's "History of Camberwell." In 1599 Alleyn's name appears in documents now at Dulwich in connection with the Fortune Theatre in Cripplegate, the establishment of which seems to have proved a source of great profit to its proprietor. The "dangerous decaye" of his Bankside theatre, the Rose, is alleged as the reason of the application to the magistrates for the new house, and great support in his new venture was derived by Alleyn from the parochial powers of that time. In addition to the theatres Alleyn was proprietor also of a bear-garden on the Bankside, and in Stone's "Chronicle," March 1604, mention is made of an exhibition before King James in the Tower, when Alleyn was sent for to bring his dogs from the bear-garden to bait a lion in his den; and at a City pageant on March 15, 1604, in honour of King James's visit, Alleyn, attired as Genius, delivered a congratulatory address to His Majesty. Bear-baiting, on the whole, appears to have been a profitable business with Edward Alleyn, though in a petition to King James subsequent to his appointment as "chief master, ruler and overseer of all and singular his majestie's games of bears and bulls and mastive dogs and mastive bitches," he makes an application for increased salary on the ground that "free liberty to bait bears on the Sunday afternoon, which was the chiefest means and benefit to the place," had been withdrawn by the king.

Among Alleyn's papers is an engagement signed by several persons in Manchester wherein they promise to send up yearly "a masty dogge or bytche to the bear-garden between midsomer and michaelmasse." Other places also entered into similar arrangements. In a bond jointly given by himself and Henslowe, dated October 1606, Alleyn is styled "Lord of the Manor of Dulwich." An unexecuted deed of sale of the manor from Sir Francis Calton to Alleyn is preserved in the college, dated June 2, 1606. On August 4, 1607, he added to his property at Dulwich by buying for 410*l.* 10*s.* three tenements and twenty-two acres of land, copyhold of the manor of Dulwich, and four acres and one rood of freehold ground from Ellis Parry, "citizen and weaver," and subsequent additions made in the course of the next five years increased his landed property to about 1,300 acres. In 1610 Alleyn was appointed churchwarden of the Liberty of the Clink. He was assisted in his parochial duties by a most active and vigilant sidesman or synodsman, John Lee, whose "presentments" concerning the wickedness of the locality are to be found amongst Alleyn's papers. The story told by Aubrey of Alleyn becoming much frightened into becoming a public benefactor through seeing the apparition of the devil, when acting that character himself, is of course ludicrous and absurd. By letters patent dated June 21, 1619, license was granted to Edward Alleyn to found a college at Dulwich, to endure for ever, and to consist of one master, one warden, four fellows, six poor brethren, six poor sisters and twelve poor scholars, to be maintained, educated and governed according to such ordinances and statutes as he should make in his lifetime, or as the persons nominated by him should make after his death. The college was to be called the College of God's Gift, and the above-mentioned officers were to be the body corporate, and to have power to take to them and their successors the

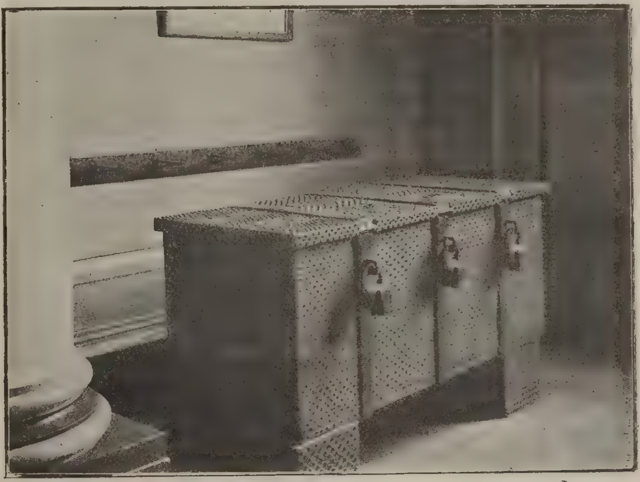
OLD DULWICH COLLEGE.

OLD DULWICH COLLEGE, FRONT VIEW.

lands therein named, and the Archbishop of Canterbury was to be for ever visitor of the college and to have power over the same and the persons therein, to visit, order and punish according to the ecclesiastical law of England or such constitutions and ordinances as Alleyn should make.

In pursuance of this license, the college was formally opened on September 13, 1619, and the various members, as above described, were legally installed in their several places. This date (September 13, 1619) has accordingly been regarded ever since as the date of the foundation of the college. Early in 1613 he had settled the plan of his college buildings, and concluded the contract for their erection. Three years later the buildings were apparently completed, and on September 1, 1616, the chapel of the college was consecrated by the Archbishop of Canterbury. Among those who attended on that occasion were Sir Edmond Bowyer, of Camberwell, and Sir Thomas Grymes. By a deed dated April 24, 1620, Alleyn conveyed the lands mentioned in the letters patent to the sole and only use of the body corporate of his college and their successors for ever. In the year 1643 an order came from King Charles I. commanding them to elect John Alleyn master, by which the rights of the college were not only invaded as to the election of their own members, but the founder's intention expressly counteracted, as by the statutes and ordinances it was ordered that the warden should succeed to the place of master whenever a vacancy occurred. During the Civil War the same dispensing power was exercised by the House of Commons, who appointed two persons to fill up the four fellowships which happened at that time to be vacant. In 1647, Fairfax's army being then at Putney and Fulham, a company of soldiers, under the command of Captain Atkinson, was quartered in the college, for which the sum of 19*s.* 8*d.* was paid, a poor recompense for the outrages which they are alleged to have committed. In 1655 the college presented a petition setting forth their grievances, and praying that the privilege of electing their own fellows might be restored.

Dulwich College Mausoleum.



Oak Chest, Dulwich College.

Oliver Cromwell, by letters patent dated February 11, 1656, appointed Nathaniel Fiennes, one of the commissioners of the Great Seal, Sir Bulstrode Whitelock, Chief Justice St. John, General Lambert and other commissioners, with full powers to visit and settle the affairs of the college. The visitation took place March 19, 1658, but the commission appointed a new preacher and schoolmaster themselves instead of restoring the privilege of election to the college. The next year Elias Alleyn presented a petition to Richard Cromwell, then Protector, in which he complained that notwithstanding the visitation of the commissioners in the preceding year, the abuses of the college were not reformed. In consequence of this petition certain persons were appointed to inquire into the matter, and it came to a hearing at Whitehall, when it was alleged that the master and warden had alienated lands belonging to the college, and had to the amount of 200*l.* a year applied the money to their own use; that they had sold divers valuable goods belonging to the college, and had aided and abetted the late king by conniving at the fellows being in arms against the Parliament. A report was afterwards drawn up, but nothing further was done.

As far as the college was concerned, the Restoration of monarchy soon afterwards led only to further arbitrary interference. A vacancy occurring in 1669, King Charles II. sent a mandamus for the appointment of a particular candidate as warden. The collegiates and assistants, willing to cover their own obsequiousness under the appearance of respect for the law, came to the following resolution:—

"That the Founder was not empowered to make any statutes repugnant to the prerogative royal."

They therefore elected John Alleyn, the Court candidate; but shortly afterwards another letter was received from the Court, informing the authorities that His Majesty had been imposed upon, the candidate he had wished them to appoint having concealed the fact that he was a married man. But unfortunately he had already been appointed, and therefore it may readily be imagined that consternation and alarm reigned supreme at the college, for by obeying the wishes of royalty and neglecting the orders and statutes of the founder, the little corporation at Dulwich had brought themselves on to the horns of a dilemma. Many and long were the deliberations, angry and deep were the mutual reproaches. They had foolishly made a precedent for royal interference, and they were deeply committed to its use. Unless a stand were made the college appointments would in future be issued from Whitehall; and so the little band plucked up courage to check the royal interference. But what was to be done with John Alleyn, who had been elected warden in spite of the fact that he was a married man? In the midst of the deliberations which ensued the wife of John Alleyn died, and this solved the difficulty.

Edward Alleyn, the founder, was twice married; first, as we have learnt, October 22, 1592, and secondly December 3, 1623. His first wife died June 28, 1623, and he married his second wife within six months afterwards, so he evidently soon forgot his "dear little mouse." His second wife, Constance, was a daughter of the celebrated Dr. Donne, dean of St. Paul's, London. Sir Thomas Grimes, of Camberwell, acted the part of mutual friend in bringing about the second marriage, and the negotiations savour very much of pounds, shillings and pence. Dr. Donne was not liberally inclined to his daughter after marriage, and Alleyn's remonstrance could hardly have been relished by his reverend father-in-law. Alleyn, however, acted well his part, as indeed he acted every part in life, and in his will (dated November 13, 1626) he not only bequeathed to his wife all he had promised, but more also. His second marriage is thus recorded in the register of Camberwell old church:—"Married, December 3, 1623, Edward Alleyn, Esq., to Mrs. Constance Donn." Dr. Donne was a frequent visitor at Dulwich during Alleyn's first marriage, and on May 23, 1620, the doctor preached at Dulwich College, as on that day Alleyn made the following entry:—"Mr. Donne preached here." On the following July 20 this entry occurs:—"I herd Mr. Donne at Camb(erwell), and after dined with Sir Thomas Grimes. They and Mr. Angell came to Dull. in the afternoon." Edward Alleyn died in November 1626, and he was buried in the chapel of his college on November 27, 1626. For further particulars of the life of this remarkable man I would refer you to William Harnett Blanch's "History of Camberwell."

The old buildings of Dulwich College were used until 1870, when the new college was built from designs by Mr. Charles Barry. The picture gallery was erected from designs by Sir John Soane in 1817, to contain the collection of pictures purchased by Noel Joseph Desenfans for King Stanislaus, to form a national gallery for Poland, but they never left this country, and were bequeathed by Desenfans to his friend Sir Francis Bourgeois, R.A., who afterwards left them by will to Dulwich College. As Mr. Spiers has told you, the pictures contain many fine examples of the Spanish, Dutch and Flemish schools. Among the artists represented are Rubens, Vandyke, Rembrandt, Murillo, Velasquez, Cuyp, Teniers, Titian, Holbein, Raphael, Hobbema, Wouvermans, Berghem, Both, Pynaker, Watteau, Guido, Claude, G. Poussin, N. Poussin, Ostade, Claude Vernet, Veronese, and many others. All these paintings are originals by the artists named, but there are a great number of very excellent duplicates of works by eminent masters. There are also many works of our own native artists, particularly Sir Joshua Reynolds, Gainsborough, Sir Thomas Lawrence, Opie, R.A., Sir Francis Bourgeois, R.A., Northcote, R.A., Briggs, R.A., Cope, R.A., Greenhill, Owen, R.A., J. Wood and R. Wilson, R.A. All the works of these masters are fully described in an excellent catalogue of the pictures, published and to be obtained at Dulwich College. In this book there is also given biographical notices of each of the artists whose works are exhibited here. There are also a number of other paintings by artists whose names are unknown. Among them are a fine portrait of Stanislaus, the last king of Poland, for whom this collection was originally made; a portrait of Edward Alleyn, founder of this college; also one of Joan Alleyn, his first wife; of Sir Francis Bourgeois, R.A., of Noel Desenfans, and of William Tell. I should like, however, to draw attention to a portrait of Henry, Prince of Wales, eldest son of James I This appears to be a painting which the authors of the catalogue do not know much about. This prince was educated at Charlton House, near Woolwich, Kent, under Sir Adam Newton, and the portrait was described in my paper and published in the Upper Norwood Athenæum Transactions on the occasion of our visit to Charlton-on-Thames, September 2, 1893. Isaac D'Israeli, in his "Curiosities of Literature," thus speaks of this prince:—"Prince Henry, the son of James I., whose premature death was lamented by the people as well as by poets and historians, unquestionably would have proved an heroic and military character. Had he ascended the throne, the whole face of our history might have been changed, the days of Agincourt and Crecy have been revived, and Henry IX. have rivalled Henry V. It is remarkable that Prince Henry resembled that monarch in his features, as Ben Jonson has truly recorded, though in a complimentary verse, and as we may see by his picture among the ancient English ones at Dulwich College. Merlin, in a masque by Jonson, addresses Prince Henry:—

> Yet rests that other thunderbolt of war,
> Harry the Fifth: to whom in face you are
> As like, as fate would have you as in worth.

A youth who perished in his eighteenth year has furnished the subject of a volume by Dr. Birch, which even the deficient animation of its writer has not deprived of attractions."

Interior of Picture Gallery, Dulwich College.

In conclusion, I would mention that Camberwell and Dulwich are situated in the hundred of Brixton; this is a very large hundred, and extends from Wimbledon to Bermondsey, and took its name, Brixistan, or Brixi's Town, from an ancient Saxon family of the name of Brixi, who resided at Hatcham Manor, in this parish, as recorded in Domesday Book. Several places in England took their names from this family, such as Brixham, Brixton and Brixworth. They were probably merchants who had been created thanes by Alfred the Great, who conferred that dignity on all merchants who owned vessels or ships and had completed three voyages abroad, the object being to create the formation of a navy in order to keep off Danish and other invaders by meeting them on their own element—the sea. The Brixies disappeared after the Battle of Hastings, having probably shared the same fate as their superior lord, the brave but unfortunate King Harold.

The illustrations are from photographs taken by Mr. H. S. Mendelssohn, 14 Pembridge Crescent, Bayswater.

DURHAM CATHEDRAL.

THE annual meeting of the Durham and Northumberland Architectural and Archæological Society was held on the 9th inst. in Bishop Cosin's Library, Durham. Rev. W. Greenwell presided. After the transaction of business and selection of places to be visited during the coming season, the President, according to the *Durham Advertiser*, delivered the following address:—He said that with regard to the cathedral nothing had been discovered since the last meeting, but he would like to again refer to the Galilee, which was, he would not say degraded—he would not use such a strong term as that—but he would say most shamefully misused by the University using it for their morning prayers. The whole effect of the building was simply destroyed by the seats there. The Galilee could not be seen unless they happened to be present when the seats were taken out for the purpose of cleaning, and then they saw what an extraordinary building it was, full of grace and beauty. It suffered materially by this stupid use of it. He had protested over and over again. Why the University had it he did not know. Why could they not meet in the nave of the cathedral? There were plenty of seats there, and they could have morning prayers there and let the Galilee be cleared out. It was no use, he knew, if they (the University) went on in their stupid, pig-headed, ignorant, tasteless way, for how many years to come he could not tell. Then as to the castle. The Norman Gallery, which was above the hall of Bishop Pudsey, showed signs of coming away. The south wall was very much out of the plumb, and manifested very considerable danger of coming down. In fact, it would have come down but for the buttressing that was called the Tunstall Gallery, the gallery which runs along the whole length of it, acting as buttress, and keeping it from coming down. That had been now, he believed, made perfectly safe, but it was only safe from falling down. Some day or other, as sure as they were sitting there, it would be all burned down. It was filled now with students' rooms. He had mentioned this over and over again, and he was accused of charging students with being worse than ordinary people. Every person who lived in a house, and who had got lamps, gas, fires, and so on, was liable to set fire to the building in which he lived. It seemed to him to be rather a foolish thing to run the risk of burning down the whole castle, because if the Norman Gallery got on fire no place would be safe; it was connected with the great hall by a staircase, and practically the whole castle would be burned down. He had known himself two fires in the castle, both caused by the carelessness of students. Fortunately both of these took place in a part of the castle which was cut off from the rest of the building by a very thick party wall, so that although every bit of that part of the castle was gutted, it did not make much matter, because it was not of a very early period or of very much interest. It was absolutely, entirely gutted, and but for this thick wall between it and the rest of the castle, the whole of the building would have been burned down. There was no party wall between the Norman Gallery and the rest of the castle. Instead, there was a staircase made of deal, and of a most inflammable character, which would carry fire into the great hall, and so the whole castle would be burned down. Why did the University not use some of the other buildings they have in connection with the castle? There was a place called Cosin's Hall. There were only about ten sets of rooms, if so many, in the Norman Gallery. Why could they not remove these virtuous and harmless people to Cosin's Hall, where, if they burned the place down no harm would come? He must not say more than that, because he got himself into hot water by suggesting that motorists should be shot, and he should not like to suggest that students should be burned. He would like to draw attention to the monument which had been put up in the cathedral churchyard in memory of the officers and men of the Durham Light Infantry who fell in the late war in South Africa. It had been done by a member of the Society, to whom they were indebted for great and valuable help—Mr. Hodges. It was a monument which he thought did very great credit to Mr. Hodges. It was a very striking design, and its outline and proportions and the detail really made it a monument on which they looked with pleasure and gratification. Of course, it did not pretend to be an original design or anything of the kind, because it was based on earlier pre-Conquest crosses of which they had so many remains scattered in various parts; but still it had varied from them to a certain extent. It had been adapted to the present requirements of such a monument, and he thought if they looked at it they would admit it was a very striking piece of work, and really one that they might admire. It was curious that something should occur when that was erected. It was erected on a piece of ground which runs at the west side of the churchyard, a terrace which was made when the cathedral churchyard was levelled about eighty years ago. It was at that time very irregular of outline, and the material which was over and above what was required for the levelling of the churchyard in general was taken to this particular place and constituted a terrace. It was found necessary to cut through that to get a foundation, and when that was gone through it was necessary to go still lower to get a foundation of rock, which was known to be not many feet below the surface. When they came between the old surface of the churchyard and the rock below they found a large number of burials of a very peculiar nature. To what period they could be attributed he really could not say, but he should think that they were probably there before the time of the Conquest. They were Christian burials, because they were all buried east and west, and they were enclosed in slabs of stone each side, and there were two tiers one above the other. They were most remarkable burials, and he did not think he ever saw anything like it. There were twenty-four of these found, and no doubt the burials extended the whole length of the terrace, because they were seen extending on all sides outside of the excavations. There was nothing found with any of them except one, and that was a shell, common to our coasts here, about the size of four cockles, with two holes perforated. What that was intended to be used as he could not tell. They did not expect to find in Christian times anything buried with the dead, because since Christianity was introduced into England there was an Act passed to prevent the old custom of burying articles with the dead. There were men, women and children. It was a very curious thing when they came to find a number of people buried together; people always jumped to the conclusion that there had been a battle. It was no use pointing out to them that there were men, women and children. He had heard of women going out to battle, in the case of the Amazons, but never children; but still they could not drive it out of people's heads, as they could not drive out a great many things. They knew if a lie got a day in advance they could never overtake it, and so it was with ridiculous notions. They could not drive them out, and they would go on jumping to the conclusion that these interments represented battles. Dr. Greenwell then proceeded to talk of what he described as the object nearest his heart—his beloved ancient Britons. He regarded all the rest of the world as nothing compared with them, he said. He proceeded to discourse at length upon this subject, dealing with theories regarding the age of the world. He pointed out that man, no doubt, passed through a process of development from previous lower forms of life. After dealing interestingly with the Stone Age, Dr. Greenwell went on to speak of the appearance in Britain of a people from across the sea, probably from South Germany, who overpowered the people of the Stone Age, partly by their natural strength and partly by being armed with more efficient weapons. Having conquered the people of the Stone period, they lived alongside them, and when the Romans came they found a people in occupation who were using iron. There was nothing to exceed the beautiful things made by those early Iron people and the people of the Bronze period. He had seen most beautiful jet buttons of the period as well manufactured as they could be at the present day, covered with very graceful ornamentation, and he had seen buttons plated with gold and copper with beautiful ornamentation. The people of the Bronze Age, who were superseded by the people of the Iron period about three centuries before Christ in England, and who again were conquered by the Romans, were a people to all intents and purposes as well clothed as we are to-day. He did not say they had trousers, and the habitations were not so comfortable, but they were not painted savages, but people who had reached a very high pitch of civilisation, and no doubt would, if left to themselves, have developed as high a civilisation as Rome had when she conquered Britain. They were conquered to a large extent because they were divided. Cæsar did not conquer them. He tried, but left the country again on finding it too hard a nut to crack. It was only about sixty years after Christ that England was really conquered, and it was conquered principally because the people of the country were divided and did not act under one general rule. They were divided into tribes, and one tribe against another. But for that, if they had developed one general system of government in England, they would never have been conquered by Rome; whether they would have been better or worse he could not tell.

At the close Dr. Greenwell was heartily thanked for his address.

THE LATE EDWARD SALOMONS.

ANOTHER able architect has passed away. Mr. Edward Salomons died on Saturday at Ireton Bank, Platt Lane, Rusholme.

Edward Salomons, says the *Manchester Guardian*, was born in 1828, and thus had a long career. Few Manchester-bred architects have approached him in ability, and few have had his chances of success. He was born in London, but his father, the late H. M. Salomons, had long carried on business in Manchester, and he himself was educated here. The pupil of J. E. Gregan, whose work in Heywood's Bank, St. Ann Street, is admirable of its kind, he had as good an architectural education as was then to be had. He began independent practice when he was about twenty-four, after working for a time for Messrs. Bowman & Crowther, whose strongly ecclesiastical style has not reappeared in Edward Salomon's own work. During his time in the office Messrs. Bowman & Crowther published "Churches of the Middle Ages" and many of the illustrations were drawn and lithographed by him. The Art Treasures Exhibition building of 1857 was his design, chosen in competition. A large block of warehouses in Portland Street is also his; but among warehouses Mr. Salomons chiefly prided himself on that for Messrs. Daniel Lee & Co. in Fountain Street—so bold and striking a building that it was a bitter disappointment to its author that it did not bring him fame and the rush of employment that follows fame. The Manchester and Salford Savings Bank in Booth Street is his, and also the Prince's Theatre in Manchester and in Liverpool the Alexandra Theatre, now a music-hall. The Reform Club, Manchester, which he designed, though a very important building, cannot be regarded as a very great architectural achievement. Mr. Salomons built Messrs. Agnew's art galleries in London and in Liverpool. He built a synagogue and a hospital at St. Annes. He erected a house for Mr. Simon at Didsbury and a house for Mr. Henry Galloway at Urmston. Two or three picturesque houses on the east side of Victoria Park are credited to him, in two of which at different times he lived. He built other houses in Cheshire, in the South of England and abroad. He had an artist's hand as well as an artist's brain. His water-colour drawings of picturesque streets and buildings in England, Normandy, Brittany and elsewhere are pleasant and attractive, though of no great technical merit; many of them have been exhibited in Manchester. With such an eye for colour as Mr. Salomon's drawings manifest, it is remarkable that few, if any, of his buildings illustrate the importance of colour and the place it should hold in architecture.

Mr. Salomons gave a good deal of time to professional and artistic matters outside of his own office. He was for many years honorary secretary to the Royal Institution. He was a Fellow of the Royal Institute of British Architects and of the Manchester Society of Architects, which he helped to found and of which he was twice president. He was for a time on the Council of the Royal Institute. He was a member of the committee of the City Art Gallery, of the School of Art committee, and of the joint committee for promoting a chair of architecture in Manchester. Mr. Salomons for the greater part of his professional life had a succession of junior partners, the last two being Mr. John Ely and after him Mr. Steinthal. Besides architectural work, he had no inconsiderable practice in arbitrations; he was quick and decided in coming to a conclusion.

THE SAN FRANCISCO EARTHQUAKE.

IN the *Engineering Record* Mr. Edward M. Boggs, chief civil engineer of one of the San Francisco railways, describes the effects of the earthquake on April 18. In the course of his letter he says:—

Generally speaking the buildings seriously injured were very old, of unsafe design, improper construction, or of poor materials. This earthquake was the best possible endorsement of the superiority of steel-frame construction for tall buildings. The "skyscrapers" were uninjured structurally by the shock. The damage they suffered was mainly to their finish and ornamental features. None of them collapsed; none contributed to the loss of life. Elevators were operated for hours or days after the shock and until the fire appeared. The instance of the Claus Spreckels building is typical. This is a twenty-one storey building 310 feet high, standing on a lot only 75 feet square. It had long been regarded by laymen as the most dangerous structure in the city in the event of earthquake, but it endured the shock nobly. I did not see it until the fire had swept through it, but it stands to-day an imposing structure. Parts of it are doubtless capable of being occupied after very slight repairs, although the building was far from fireproof and suffered greatly from the fire. The other steel-frame buildings have the same satisfactory records.

Of other types of buildings it may be said that their designers seem to have expected the earth to remain always quiescent. A few points concerning them have impressed themselves upon my mind. Massive masonry at great heights above the ground is dangerous, masonry walls at gable ends of high-peaked roofs are especially liable to fall. Heavy copings, parapet walls and enormous chimneys may become mighty engines of destruction. In some instances heavy brick chimneys on school buildings fell upon roofs and like titanic projectiles passed through every floor down to the basement. What a needless slaughter of children would have resulted had the time been later and the schools been filled as usual. It should be made a crime to perpetrate such an architectural blunder.

Many dwellings also were badly injured by their own chimneys crashing through their roofs, or those from adjoining houses rolling down and plunging through windows; and many persons were killed or injured in this manner. Reinforced concrete, sheet metal, or even terra-cotta are far superior to brick and stone for such a purpose. Most of those killed were in old and flimsy buildings which collapsed, doubtless in some cases the weaker buildings being pounded to pieces by the heavier ones around them. The calamity occurred at 5.14 A.M.; had it been an hour or so later, when the streets were crowded with people, the loss of life would certainly have been many times greater.

I have not seen a single fallen chimney which had been well braced to the roof, although many such were broken across at or near the roof line. Except in fortunate localities the destruction of unbraced chimneys was general, and even to-day almost the entire population of the unburned districts are subsisting on uncooked or cold food, or else cooking in their yards or in the streets, while awaiting inspections and repairs of their kitchen chimneys.

Enormous damage was done to stocks of goods by roof-tanks being overturned, breaking through the roofs and flooding the building. Such tanks could readily be braced so as to maintain their upright position.

Masonry walls should be well braced and tied together. If the building can sway as a unit instead of falling apart it will endure a surprising amount of racking. This is exemplified in the cases of many tall but well built church towers. These would seem by reason of their height to be peculiarly subject to destruction, but, on the other hand, their smaller diameters gave better facilities for braces and ties, and in some instances they stood far better than lower buildings having long walls. But still the damage to church buildings having unnecessary masses of masonry was very extensive.

The Palace Hotel is an example of a building having solid brick walls which withstood the shock well. This was doubtless due to the large number of intersecting partition walls, which were also of solid brick masonry of good quality. On the other hand, the Emporium building of about the same height, but having larger rooms and fewer partition walls, was badly wrecked.

A surprising amount of brick masonry which was thrown down was of poor quality, the bricks separating with clean surfaces, showing lack of adhesion of the mortar. Reinforced concrete having greater tensile strength would be incomparably superior to laid-up masonry.

As to the future of San Francisco. In my opinion it will rise from its ashes to a more magnificent future than would have been possible without this scourge of fire. It had been her misfortune that she had never been swept by a general conflagration. The loss would have been much less had it come ten years ago, but it is less now than it would have been at any time in the future. It is probable that the plan of the city will be radically changed. The original plan was a huge mistake; to perpetuate it now would be a crime. Streets should be widened, the checker-board arrangement of blocks on the steep hills abolished. Chinatown will be removed from one of the most desirable portions of the city. The way can now be opened to build the city as it ought to be built, and I believe it will be done. Its people possess the necessary courage, skill and resources. All that is lacking is the material. That cannot come forward fast enough. There will be an unlimited demand for building supplies for years to come, especially for structural steel and materials for steel-concrete construction.

Communications from other engineers are also given.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE last of the monthly meetings of this Society for the present session was held in the National Museum of Antiquities, Queen Street, Edinburgh, on Monday. Mr. Thomas Ross was chairman.

Mr. Ludovic M'Lellan Mann, F.S.A.Scot., exhibited, on behalf of Mr. Arthur Hart, C.A., Glasgow, a drinking-cup urn recently found in a sandpit at Bathgate, and beads of vitreous paste found in Ayrshire by Bailie Joseph Downes, of Irvine; and gave details of the exploration of the floor of a prehistoric hut in Tiree. Stone implements and pottery found embedded in the soil of the floor were shown and their significance discussed, some of the pottery being of a class not hitherto recorded in Scotland, but not unlike some pottery of the Bronze Age from the south of England. Mr. Mann also described the important discovery in March last by Messrs. Robert Irvine, of Stevenston, and J. M. Orr, of Saltcoats, of at least fourteen cinerary urns containing burnt bones in a small cairn of the Bronze Age near Stevenston, Ayrshire. In one of the urns were found beads of vitreous paste and traces of thin gold, probably a small personal ornament. Mr. P. Macgregor Chalmers, F.S.A.Scot., gave a description of an earth-house at Ardross, in Fife, with a ground plan and photographs. Mr. Thomas Ross read a description of the exploration of the castle on the Isle of Loch Dochart, by Mrs. Place, of Glen Dochart, and exhibited a plan of the castle by himself and drawings of the objects found by Mrs. Place and other members of her family, which included a number of interesting objects, including an iron fire-dog and two earthenware jars. The castle was built by Sir Duncan Campbell, seventh Laird of Glenurchy of that line, who succeeded in 1583 and died in 1631, and Mrs. Place found his armorial bearings sculptured on a tablet which had been inserted in the wall. Mr. Alexander Hutcheson, F.S.A.Scot., Broughty Ferry, gave a description, with a photograph, of a peculiarly shaped jug of earthenware, probably of the fourteenth century, found many years ago at Forfar, and recorded another instance of the insertion of earthenware jars into the walls of dwelling-houses which had lately been observed in Dundee.

TESSERÆ.

Oratory and Painting.

THERE are two good things in this world—a good speech and a good painting. It is difficult to say which is the better of the two. In many respects they are similar. Both represent ideas. A true painting embodies the lofty conceptions of the artist. The work of the true artist must have meaning. It must be the result, not of mechanical skill alone, but also of mental workings. The artistical blending of the colours must be accomplished according to an ideal image. It must be the outward manifestation of an outward thought. The painter must be, not the servile copyist of external nature, but the sketcher of his own vivid conceptions. So it is with a true speech. That, as well as a painting, must embody thought. The orator must accomplish the same that the painter accomplishes—the presentment of original conceptions. He must bring out the inner thoughts in bold relief and beautiful harmony. To do this he uses words as the painter uses oils. He must be an adept in word-painting. Then, again, both the orator and painter must have not only the original thought as the source of their work, but also the artistical skill necessary to its representation. To do this the painter labours with his paints, mixing and analysing them. He faithfully uses the brush in properly distributing them. The orator studies his mother tongue, unites and analyses words. Hence both require practice, and long, unremitted, toilsome practice. Both, too, though not servile copyists of nature, must be true to nature. To attain this end the painter studies forms in the natural world, the orator forms of language. The painter studies the human face and person, the orator studies the human heart. Both, too, must be good men. He is the true orator or painter who moves and satisfies man's nature, who stirs to its deepest depths the soul of man. But how can he who has not cultivated his own religious nature develop it, come to know it; how can he find the spring of its movement in others? How can he touch the chord in another's bresat who has never felt the vibrations of his own? Moreover, it is only when the religious part of man's nature governs and moulds the other parts that the whole being attains its highest perfection. Thus do the imagination and the intellect depend upon this higher part, the religious nature. And the orator or painter who would attain the highest development of intellect or imagination must reach it in the only way presented in the wonderful constitution of the soul. Both move the feelings. How many there are who can testify to the effect upon their soul of a genuine painting. How it excited thought, stirred emotion, awoke into active, breathing life the dormant energies of their spiritual being. And how many, too, by thrilling eloquence have been moved in the same strong way, and under its magic power have formed the stern resolve, nerved the strong arm and triumphed in the fearful crisis. Yes, both have strengthened the feeble knees of doubt, both girt up the loins of weakness, both have fired zeal, both have lashed into foam the surges of the soul. So the analogy between oratory and painting might be traced still further, showing the similarity in source, means and end.

Palavicini as Architect.

It is believed that Sir Horatio Palavicini erected the first house in England which was in the pure Italian style, having a loggia to the second storey with his arms over the portal. This he erected at Little Shelford, in Essex; it was taken down in 1750 or 1754. Sir Horatio was collector of the Pope's taxes in England in the reign of Queen Mary, on whose death and the change of religion that ensued he took the liberty of keeping the money himself, and settling in England built the house above alluded to. He was also possessor of the estate and house at Baberham, near Cambridge, where in the hall, on a costly chimney-piece, adorned with the history of Mutius Scævola, his arms remained. His family were buried at Baberham, as appears by several entries in the parish register, where also is recorded the marriage of his widow (exactly a year and a day after Sir Horatio's death, who died July 6, 1600); thus Mr. Oliver Cromwell and the Lady Anne Palavicini were married July 7, 1601. An account of the family connections of Palavicini with the Cromwells may be seen in Noble's "Cromwell." In Peck's "Desiderata Curiosa," p. 52, lib. 7, it is said when Lord Arundel was imprisoned by Queen Elizabeth for accepting the title of Count of the Empire, he referred his case to Sir Horatio and others, adding these words in his letters to one of the principal Lords of the Court:—"Neither doe I thinke England to be so unfurnished of experienced men but that either Sir Horatio Palavicini, Sir Robert Sidney, Mr. Dyer or some other can witness a truth therein." Walpole says:—"But Palavicini had higher merit, as appears by an incontestable record. He was one of the commanders against the Spanish Armada in 1588, and his portrait is preserved among those heroes in the borders of the tapestry in the House of Lords," engraved by Pine. We presume by this that he had been converted to Protestantism, as we find him fighting against a Power which he at one time collected money to support.

Rubens's "Taking Down from the Cross."

Rubens—who, among his other tastes, was a great florist—was very desirous to enlarge his garden by adding to it a patch of ground adjoining. It chanced, unfortunately, that this piece of land did not belong to an individual who could be tempted by a large price, but to a society or club called the "Arquebussiers," one of those old Flemish guilds which date their origin several centuries back. Insensible to every temptation of money, they resisted all the painter's offers, and at length only consented to relinquish the land on condition that he would paint a picture for them, representing their patron saint, St. Christopher. To this Rubens readily assented, his only difficulty being to find out some incident in the saint's life which might serve as a subject. What St. Christopher had to do with cross-bows or sharpshooters no one could tell him, and for many a long day he puzzled his mind without ever being able to hit upon a solution of the difficulty. At last, in despair, the etymology of the word suggested a plan; and "christopheros," or cross-bearer, afforded the hint on which he began his great picture of "The Descent." For months long he worked industriously at the painting, taking an interest in its details such as he confesses never to have felt in any of his previous works. He knew it to be his *chef d'œuvre*, and looked forward with a natural eagerness to the moment when he should display it before its future possessors, and receive their contratulations on his success. The day came, the "Arquebuss" men assembled, and repaired in a body to Rubens's house; the large folding shutters which concealed the painting were opened, and the triumph of the painter's genius was displayed before them; but not a word was spoken; no exclamation of admiration or wonder broke from the assembled throng; not a murmur of pleasure, or even surprise, was there: on the contrary, the artist beheld nothing but faces expressive of disappointment and dissatisfaction; and at length, after a considerable pause, one question burst from every lip, "Where is St. Christopher?" It was to no purpose he explained the object of his work: in vain he assured them that the picture was the greatest he had ever painted, and far superior to what he had contracted to give them. They stood obdurate and motionless: it was St. Christopher they wished for; it was for him they bargained, and him they would have. The altercation continued long and earnest. Some of them, more moderate, hoping to conciliate both parties, suggested that, as there was a small space unemployed in the left of the painting, St. Christopher could be introduced there by making him somewhat diminutive. Rubens rejected the proposal with disgust: his great work was not to be destroyed by such an anomaly as this; and so, breaking off the negotiation at once, he dismissed the "Arquebuss" men, and relinquished all pretension to the "promised land." Matters remained for some months thus, when the burgomaster, who was an ardent admirer of Rubens's genius, came to hear the entire transaction; and, waiting on the painter, suggesting an expedient by which every difficulty might be avoided, and both parties rest content. "Why not," said he, "make a St. Christopher on the outside of the shutter? You have surely space enough there, and can make him of any size you like." The artist caught at the proposal, seized his chalk, and in a few minutes sketched out a gigantic saint, which the burgomaster at once pronounced suited to the occasion. The "Arquebuss" men were again introduced; and, immediately on beholding their patron, professed themselves perfectly satisfied. The bargain was concluded, the land ceded and the picture hung up in the great cathedral of Antwerp, where, with the exception of the short period that French spoliation carried it to the Louvre, it has remained ever since, a monument of the artist's genius, the greatest and most finished of all his works.

Correspondence

Royal Institute of British Architects' Council Election, 1906.

Sir,—May I ask for a little space in *The Architect* on Friday to point out a most unfortunate and fatal omission of my proposer's name in the official list of my nominators as a candidate for the Institute Council. The damage to my chance of election is of course beyond recall, but to leave out the name of a candidate's chief sponsor, and such an honoured and influential name as that of Mr. G. F. Bodley, R.A., is a very serious business and a most unconstitutional proceeding, and an expression of regret after the damage is done does not do much to mend matters. In case any of your readers may not have recorded their votes (which I doubt, as the list alluded to was issued last Saturday when the voting papers went out), it may be well that they should know how these things are managed, and certainly Mr. Bodley should know that it is not my fault that his name was left out as it has been.—Yours truly,

Maurice B. Adams.

Edenhurst, Marlborough Crescent,
Bedford Park, W.: May 16, 1906.

GENERAL.

The Death occurred at Warrington on Saturday of Mr. J. Thompson, aged eighty-one years. Mr. Thompson had been the headmaster at the School of Art for nearly thirty years and trained a number of well-known artists, including Mr. Luke Fildes, R.A., and Mr. Harry Woods, R.A.

Mr. John J. Robson, M.I.C.E., has been appointed engineer to the Wardens of Rochester Bridge, in succession to the late Mr. V. de Michele, M.I.C.E.

An Exhibition of water-colours of glacier and moraine about Arolla, Saas Fee and Bel Alp, by Mr. Ernest George, is to be opened on Monday at the Fine Art Society Galleries in New Bond Street. The proceeds of the sale of the water-colours will be given towards completing the small church of St. George at Arolla.

Mr. W. E. Willink, of Liverpool, consulting architect to the Wrexham education committee, has presented his report on the competition for the best designs for the proposed Alexandra Council schools at Wrexham. The first premium of 50*l.* for the best set of plans is awarded to Mr. Frederick Willey, of Durham, and the second premium of 30*l.* to Messrs. Lumsden & Hardie, of Oxton.

The Dean and Chapter of Exeter Cathedral have decided, it is announced, to have an examination made of the foundations of the south tower. A crack extending from the ground level to the summit has existed for something like fifty years. There is no indication of any expansion or of any subsidence of the foundations; but in face of what has happened at Chester, Salisbury, Winchester and elsewhere, the Chapter think it desirable that there should be no room for doubt as to the state of the foundations.

The Royal Sanitary Institute will hold on May 26 a provincial sessional meeting at the Municipal Council Chamber, Bournemouth. A discussion will be opened by Dr. P. W. G. Nunn on "Sanitary Administration in a Health Resort."

Sir E. Durning Lawrence has presented over twenty pictures by well-known artists to the Lambeth Borough Council for the adornment of the new municipal buildings. The works have recently been on exhibition at Bethnal Green Museum.

An Inscription has been discovered at Timgad which is supposed to be unique, as it once served to designate an ancient librarian's or bookseller's shop.

Messrs. R. Cook & Sons, of Crawley, are the contractors for the new schools for the borough of Bexhill which we illustrated in our last issue.

Mr. Josiah Timmins Smith, of Rhine Hill, Stratford-on-Avon, civil engineer, who died on March 31 last, left estate valued at 120,728*l.* gross, with net personalty 120,233*l.*

An Exhibition of works by the late Fantin Latour is now being held in the Ecole des Beaux-Arts, Paris.

Mr. Horace W. Collins died last week at Portreath in his thirty-second year. He was agent and architect for Lord Clinton, and erected buildings in Redruth, where he practised.

The Arbroath Town Council have now received intimation from the Secretary for Scotland of his approval of the proposal to apply 750*l.* out of the grant received under the Education and Local Taxation Account (Scotland Act, 1892) towards the purchase of properties at Abbey Green, Abbey Park and St. Thomas Street, with a view to their demolition and the further opening up of the abbey ruins.

Sir John Brunner, M.P., has offered to present a library to Northwich, to replace the present Brunner Library, which is dilapidated owing to subsidence. It is intended to build a library and new municipal offices upon one site.

Mr. H. B. Brabazon, the water-colour painter, died at Battle on Monday at the age of eighty-five years.

The Annual Report of the Ruskin Museum, Sheffield, shows that the total number of visitors from March, 1905, to March, 1906, was 43,659, which is 7,000 less than last year, when a special exhibition of etchings and engravings was held.

Dr. Wilhelm Bode, the director of the Royal Gallery, Berlin, has prepared a large volume on "Rembrandt and his Contemporaries," containing studies on the Dutch and Flemish masters of the seventeenth century.

Several of the Young Architects of Paris have emigrated to San Francisco in the expectation of finding commissions for new buildings.

The Members of the Royal Society of British Artists have decided that a president to succeed Sir Wyke Bayliss must be chosen from the ranks of ordinary members. But as several eminent "outsiders," including two Royal Academicians and one Associate, are anxious to fill the vacant post, it has been resolved to hold a special meeting on the 24th inst. for the election of members, so that the gentlemen in question shall have an opportunity of joining the Society and thus be enabled to stand for the presidency. The presidential election will take place on June 11.

A Technical Institute is to be erected in Dundee. The estimated cost of site and buildings is 50,000*l.*, one-half of which is expected from the Education Department. National Art Survey scholarships of the value of about 30*l.* each, tenable for six months, have been awarded by the committee of the school to Mr. W. J. Walker Todd, with Mr. T. P. Marwick, architect; and Mr. Sydney H. Miller, with Sir R. Rowand Anderson.

The Following Architects have been selected by the Council of the University College of North Wales, Bangor, to send in competitive designs for the new buildings which it is proposed shortly to erect:—Mr. W. D. Caröe, Mr. J. F. Doyle (Liverpool), Mr. H. T. Hare, Mr. A. Marshall Mackenzie and Mr. Arnold Mitchell. The estimated expenditure is 200,000*l.*

The Managing Committee of the British School at Athens have elected Mr. R. McG. Dawkins, Fellow of Emmanuel College, Cambridge, as director of the school, in succession to Mr. R. C. Bosanquet, lately appointed to the chair of Archæology in the University of Liverpool. Mr. Dawkins has assisted in the excavations carried on by the school at Palaikastro, in Crete, and is at present engaged in assisting Mr. Bosanquet in the school's work at ancient Sparta.

The Galleries Committee of the Glasgow Corporation, after visiting the exhibition of the Royal Institute of Fine Arts, purchased the following pictures:—No. 285, "The Day of Rest," by Mr. Patrick Downie, R.S.W. (250*l.*); No. 494, "Interior of St. Maclou, Rouen," by James G. Laing, R.S.W. (52*l.* 10*s.*); No. 419, "Grouse," by Mr. Edwin Alexander, A.R.S.W. (35*l.*).

The Sunderland Town Council were informed at their last meeting that the premiums offered for designs for branch libraries to be erected out of the Carnegie gift of 10,000*l.* had been won—the first by Mr. Hugh Hedley and the second by Mr. Clayton Green, both of Sunderland.

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OF THE
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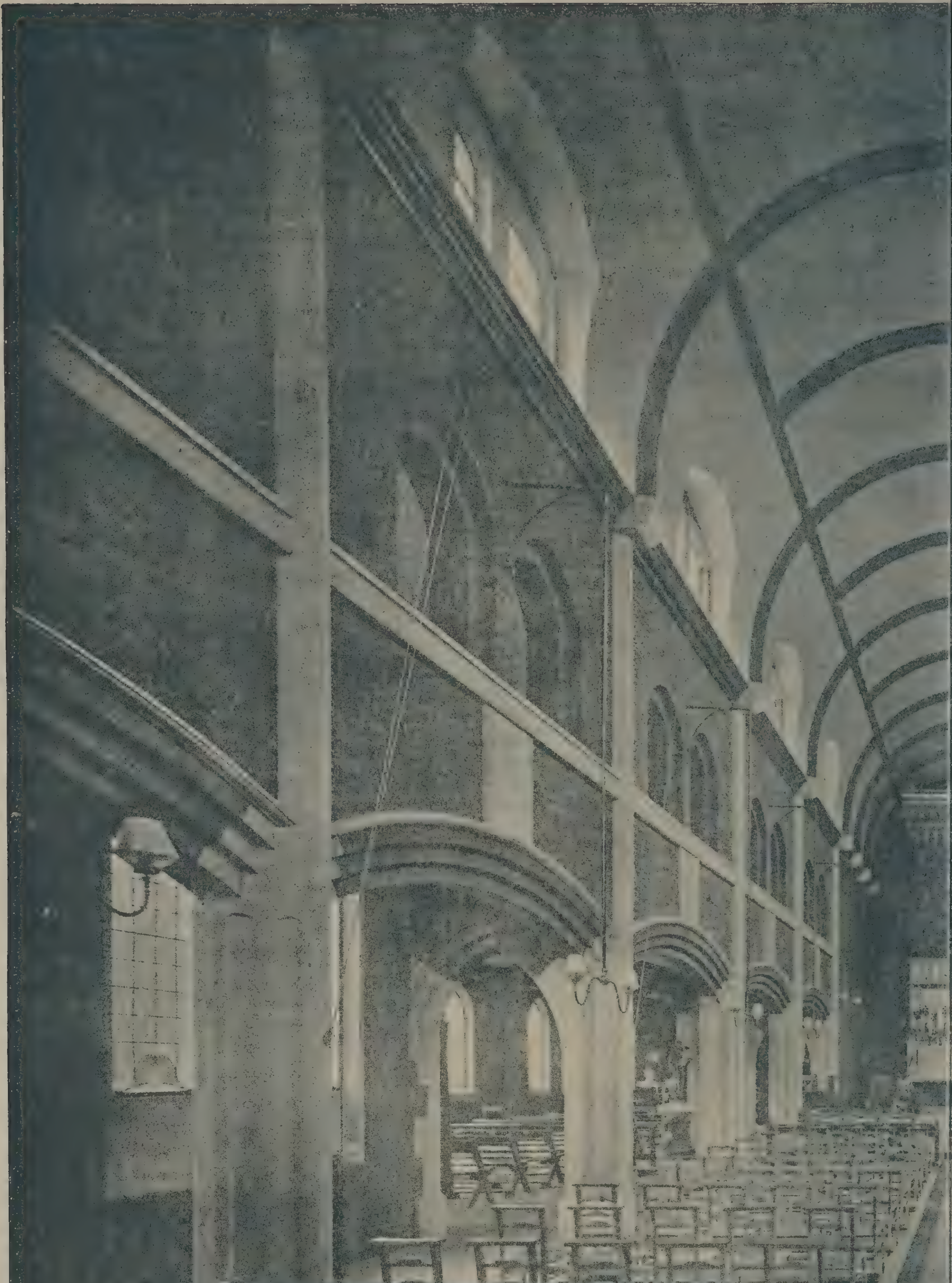

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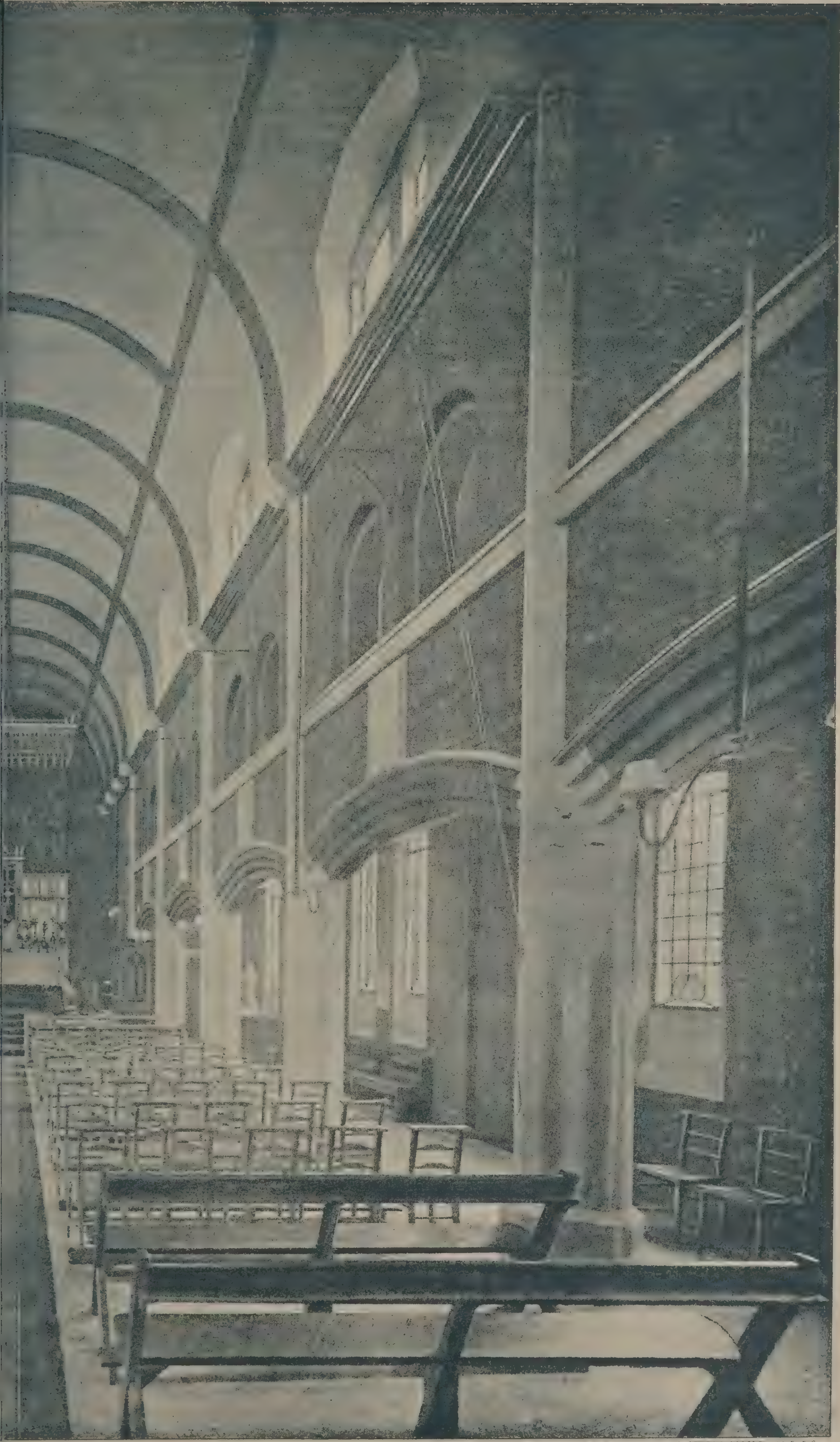

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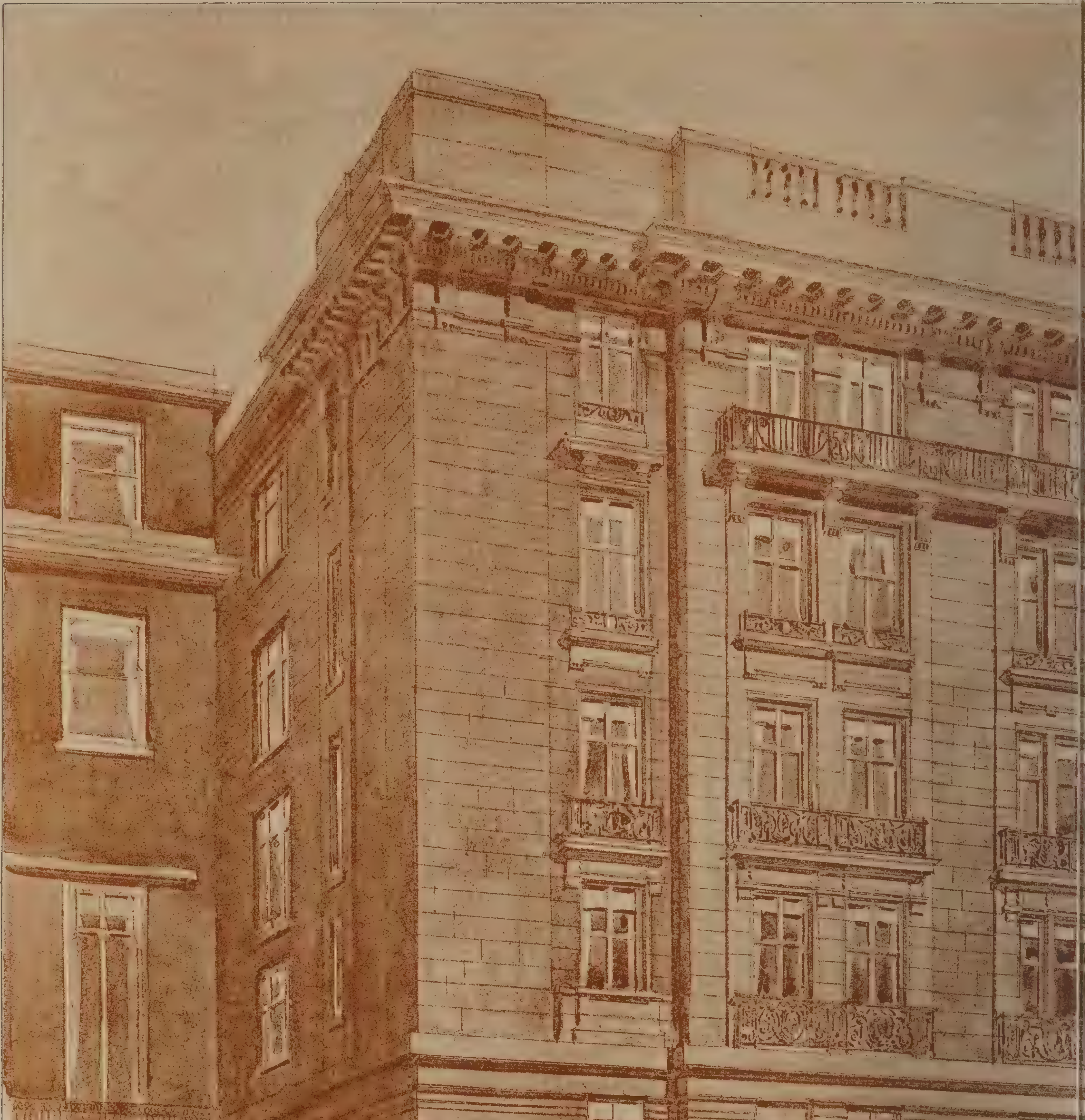

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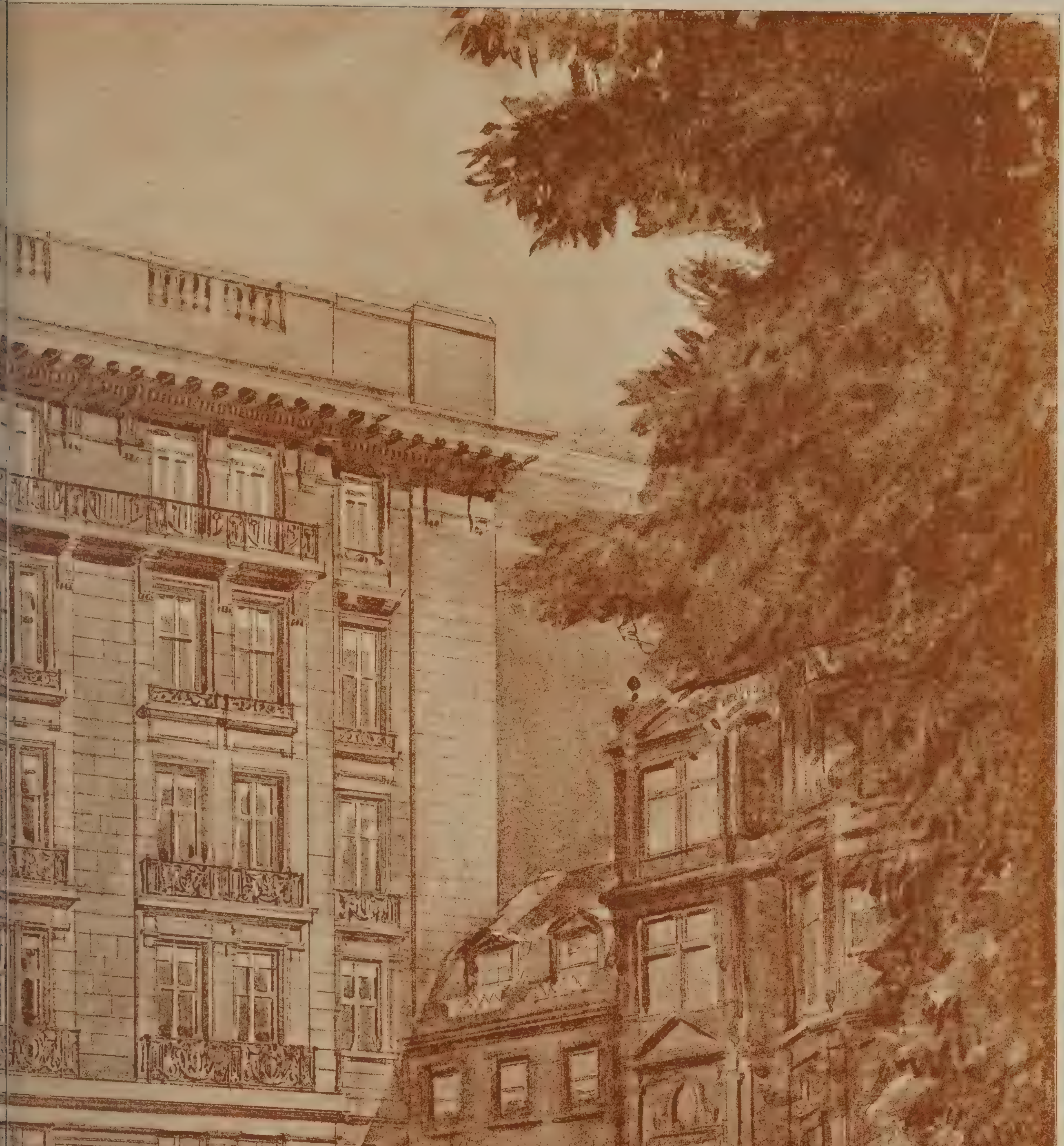

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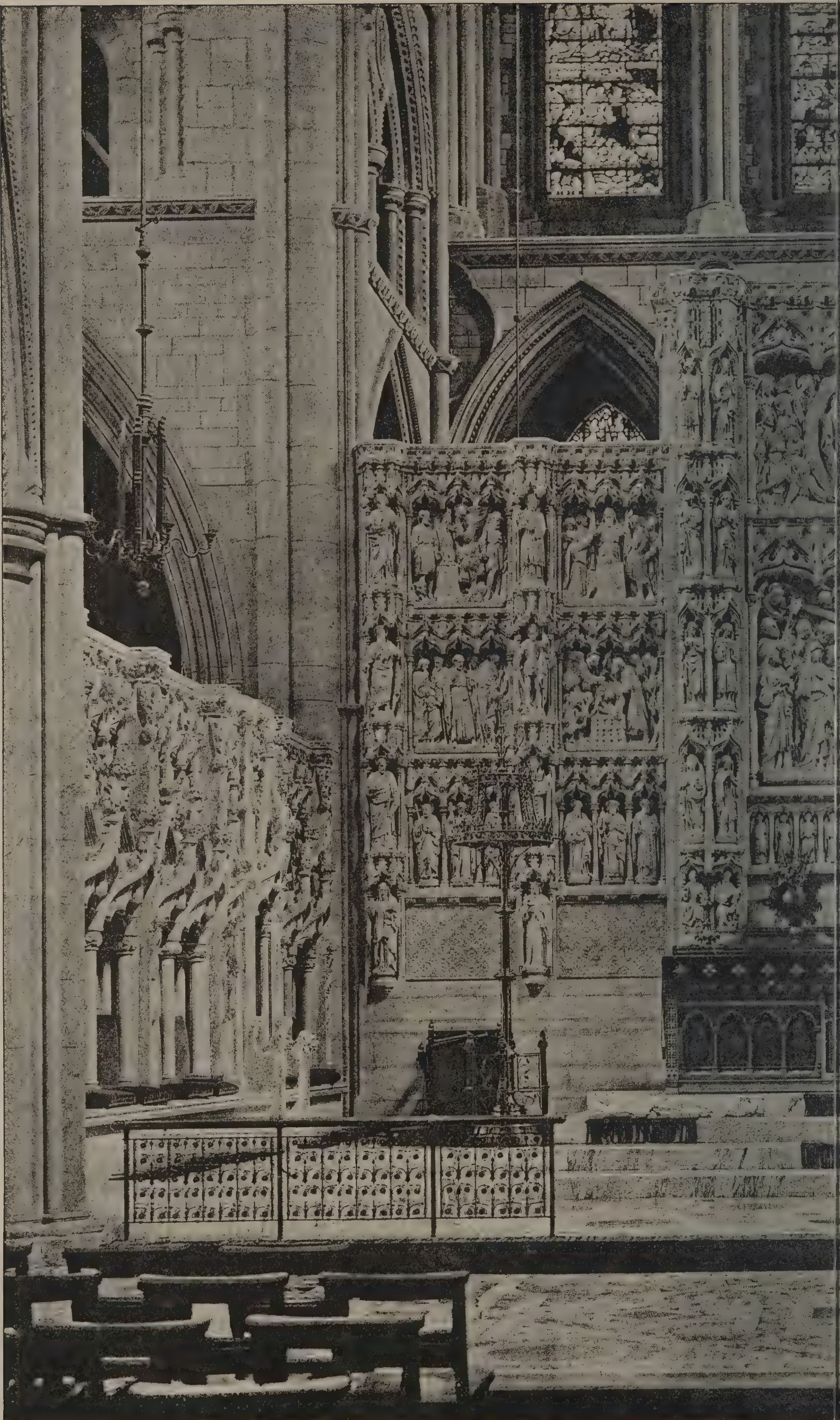

CATHEDRAL SERIES, No. 560.—TRURO: THE

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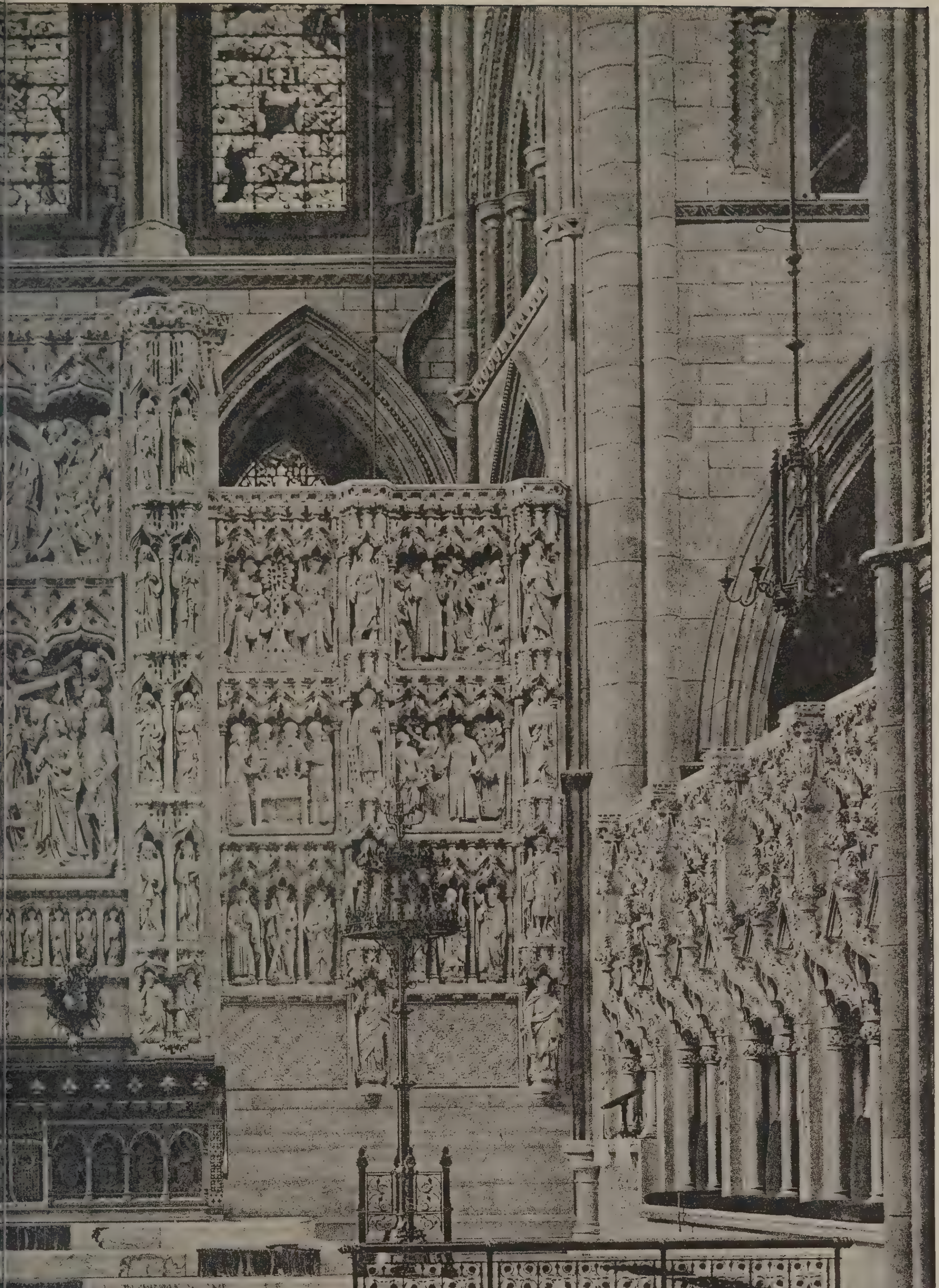

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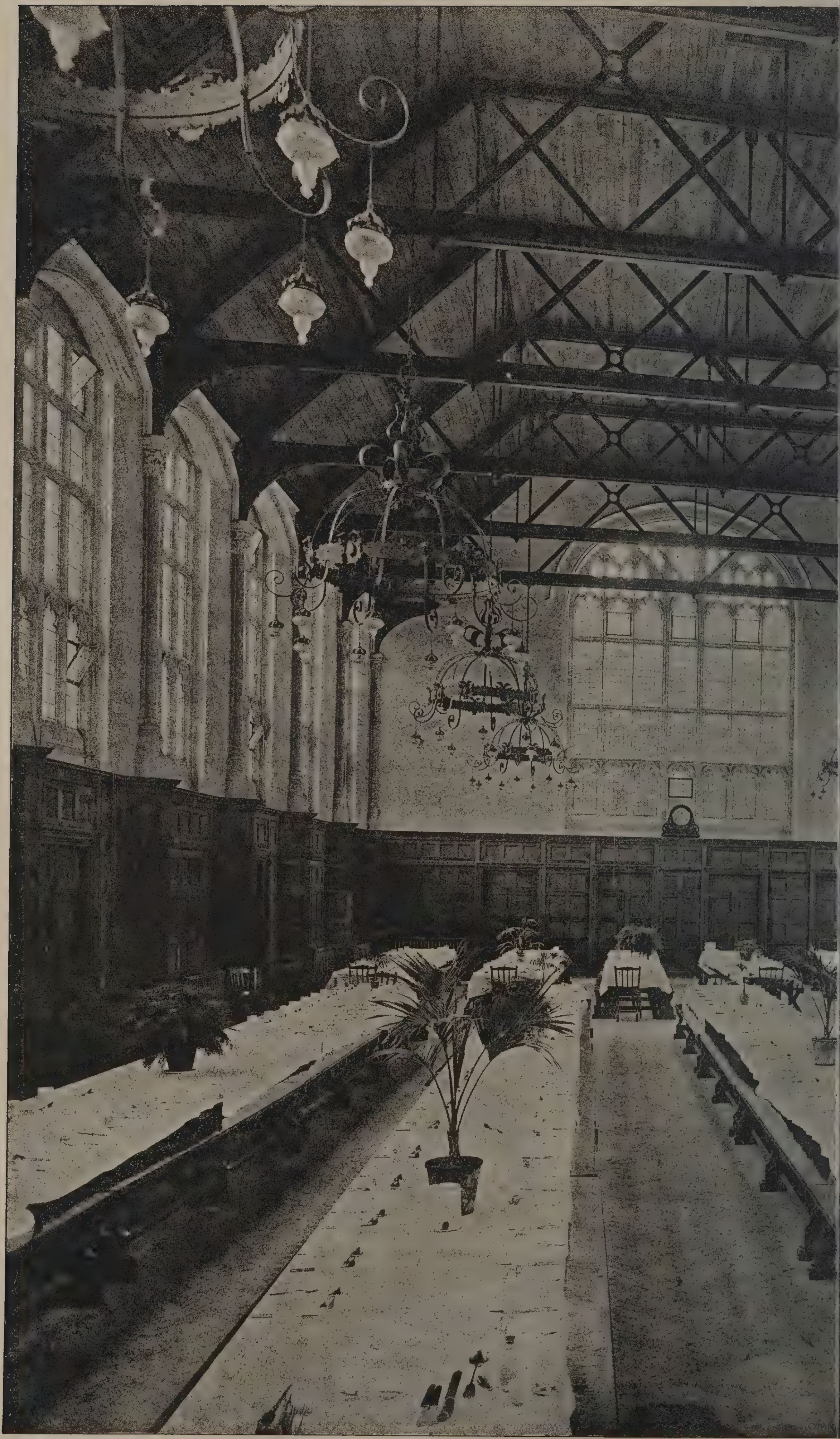

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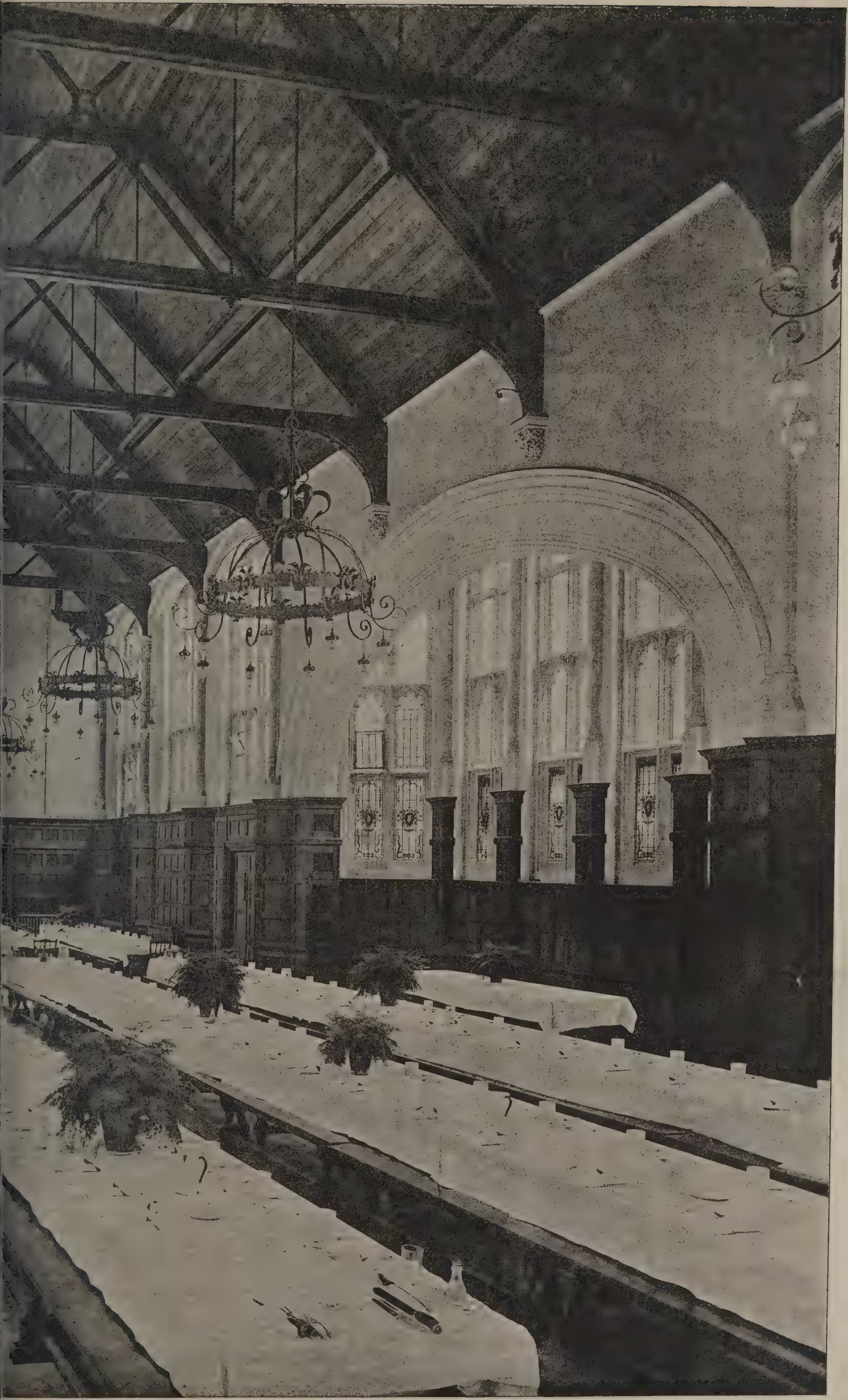

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BUSHEY, HERTS: DINING HALL.

GUNTER, Architects.

The Architect.

THE WEEK.

THE doctrine of common employment prevented servants from recovering damages from their master if they were injured by the negligence of a fellow servant. The principle, it has been said, was that a servant, when he engages to serve a master, undertakes as between him and his master to run all the ordinary risks of the service, and this includes the risk of negligence on the part of a fellow-servant whenever he is acting in discharge of his duty as servant of him who is the common master of both. The Workmen's Compensation Acts have deprived this doctrine of much of the importance which it once possessed. But that it may still have some application in cases where those Acts do not apply is illustrated by the case of TOZELAND *v.* West Ham Union. In that case the plaintiff was a pauper inmate of the defendant Union. The Union was engaged in enlarging the electric-light installation at their workhouse, and they were carrying on the work by means of their own servants. The plaintiff was ordered by the labour-master to work on a staging formed of a ladder and a pair of steps with a scaffold-board between the two. The staging collapsed and the plaintiff suffered injuries which necessitated the amputation of his leg. The County Court judge held that the doctrine of common employment prevented the plaintiff from recovering. This decision was reversed on appeal, on the ground that this doctrine was based upon the fact that the servant had voluntarily undertaken the employment; and it could not be said that a pauper, who is bound to obey the orders of the labour-master, voluntarily undertakes labour which he is bound by law to do.

THE case above cited raises also another interesting question, the question, namely, as to the circumstances under which a public body, such as a board of guardians, may be made liable for the acts of their subordinates. It is clear that "it is difficult to apply to public bodies who act by agents the ordinary rule of law as to the liability of a principal for the acts or omissions of an agent," but it is not quite clear where the line is to be drawn. On the one hand, it seems to be certain that such an action will not lie for every breach of a statutory duty. It would not, for instance, be open to every pauper to sue the guardians if he thought that food of insufficient quantity or quality had been supplied. On the other hand, if the guardians do acts by their agents, and these acts are done negligently and so damage a third person, they are liable. The Court found considerable difficulty in deciding under which category the present case fell. With some hesitation it thought that the guardians were liable because they were doing acts which, though lawful and reasonable, were not done under any statutory duty. They might, for instance, have employed an independent contractor to do the work. That being so it was thought that the guardians were liable for the negligent acts of their agents. If this case is rightly decided the test would seem to be, Is the public body doing acts it is formed to do and so acting under a statutory obligation, or is it simply using its own discretion as to the mode of doing an act which it need not necessarily do for itself?

THERE are so many claims on the Treasury for assistance in obtaining aids to our knowledge, it is difficult to satisfy them all. The authorities of galleries and public institutions have always a wish to demonstrate that Peace hath her victories as well as War, by carrying off works of art or antiquity from the representatives of other nations. The contests for such treasure may be bloodless, but they are generally very costly. But if we will have an expensive Army and Navy, and a Civil Service which is without any parallel elsewhere for its expensiveness, we must allow a great many things which would be of service in our museums and galleries to enrich other cities. One result of the economy was explained at the last meeting of the Hellenic Society by Mr. CECIL SMITH, the Keeper of the Department of Greek and Roman Antiquities, British Museum. According to him the amount now expended is less than two-thirds of the amount which was available fifteen years ago. Yet it cannot be denied that the competition to gain antique objects is more keen than formerly. Mr. C. SMITH considers that at least 10,000*l.* a year is required if desirable objects are to be obtained from private collections in this country. As suggesting the difficulties which await an official, he pointed out that for twenty years he had been watching a vase from Clazomenæ, which was produced about the middle of the sixth century before our era. Fortunately, it has been acquired for the British Museum. Among other riches are several examples of work in ivory, Greek jewellery and statuettes. In the acquisition of works of art promptitude is usually desirable. If long reports have to be prepared to submit to the Treasury, it is not impossible that a bargain will be struck with some other country and loss would be incurred.

IN America the question of adoption of the metric system appears to give rise to much difference of opinion. A Bill was introduced which proposed that in transactions with the Government the system should be adopted. But the standing committee of Congress on coinage, weights and measures have reported against the proposal. A committee of the American Institute of Electrical Engineers having expressed approval of a change, it was decided to ask the members to vote by ballot on the subject. About 3,300 voting papers were sent out. Only about one-half the members took the trouble to fill up the forms. It was found that 1,569 of them were in favour of the committee's resolutions, and only 178 against them. The reasons which guided the committee of the Institute were the very great advantages of the metric system by its simplicity, consistency and convenience in everyday use; that all the electrical units in universal use, such as the volt, ampere, ohm, watt, &c., are metric units; and that the industrial use of these electrical units would be much facilitated by the general adoption of the metric system.

THERE are no standards as yet in this country to regulate the strength of blocks of artificial stone or concrete which are largely used in American cities. New York has imposed one which is severe, although it is said several varieties are equal to it. According to regulation No. 14, "the modulus of rupture must average 450, and must not fall below 350 in any case. The ultimate compressive strength must average 3,000 lbs. per square inch, and must not fall below 2,500 in any case. The percentage of absorption (being the weight of water absorbed divided by the weight of the dry sample) must not average higher than 15 per cent., and must not exceed 20 per cent. in any case. The reduction of compressive strength must not be more than $33\frac{1}{3}$ per cent., except that when the lower figure is still above 3,000 lbs. per square inch, the loss in strength may be neglected." The requirements for Philadelphia differ from the above to a surprising extent, as will be evident from the following:—"The modulus of rupture for concrete blocks at twenty-eight days old must average 150, and must not fall below 100 in any case. The ultimate compressive strength at twenty-eight days must average 1,000 lbs. per square inch, and must not fall below 700 lbs. in any case. The percentage of absorption (being the weight of water absorbed divided by the weight of the dry sample) must not average higher than 15 per cent., and must not exceed 20 per cent. in any case. The reduction of compressive strength must not be more than $33\frac{1}{3}$ per cent., except that when the lower figure is still above 1,000 lbs. per square inch, the loss in strength may be neglected." It will be observed that the form is similar, but the figures are much lower in Philadelphia than in New York.

CHURCH ARCHITECTURE.

THE remarks of Mr. Temple Moore at the annual meeting of the Church Building Society, which will be found on another page, are a revelation about the weakness of many designs which are prepared for churches in our time. It is, no doubt, difficult to satisfy the expectations of any body of experts, but anyone who is acquainted with modern practice will be disposed to agree with the censor. In fact, the conditions under which work is produced in our time are of a kind to favour immaturity in designs. Haste rules everywhere, and it is a very general belief that if a commission is to be "pulled off" it is absolutely necessary to prepare the drawings without delay.

Apart from the peculiar conditions of practice, modern Gothic is liable to be affected by freakishness. We may assume that the designs to which Mr. Temple Moore referred are in that style, for any variety of a Renaissance church is only produced under exceptional conditions. Now the difference between all the variations of Classic as compared with Gothic may be summarised by saying that the former are more simple than the latter. A Greek temple, as we know, depended on the proportions and perfection of form of a few elements. It was therefore easy at one time in England to design churches which would bear more or less resemblance to a Greek temple. Indeed, gate-lodges and places of worship differed only in size. Besides simplicity there was another advantage in having definite proportions for all the parts. Careful measurements of Classic remains revealed that the Greeks allowed themselves some liberty in dealing with the proportions of their columns and mouldings. But in some of the books in which engravings of the orders were given as patterns, divergencies were not recognised. Towards the end of the eighteenth century and in the first quarter of the nineteenth the majority of the men who practised in England believed that there was only one definite set of proportions, although they were not clear from whence it was derived.

Indeed, we might say that not merely the architects, but the writers of books and essays when they occasionally referred to architecture, endeavoured to demonstrate that there was one fixed canon for a Classic building, whilst in Gothic everything was irregular and perverse. That belief was not confined to Englishmen. French writers of undoubted genius held similar opinions. Archbishop Fénelon was an exquisite judge of literature and art, and he was accustomed to officiate in Gothic cathedrals. But he considered Gothic architecture as the creation of the Arabs, men who had neither rules nor culture and who were prone to false subtleties, sophists in reasoning and *amateurs de colifichets en architecture*. He must have suffered every time he sat in his episcopal chair. With such an authority before them we need not be surprised if many other critics adopted the same views.

When in the course of time Gothic architecture again came into favour, it was to be expected that theorists as well as practitioners should endeavour to demonstrate that the style was consistent in all its details. At first, no doubt, it was a difficult task, for it could not be denied that there was a vast difference not only between the appearance of one Gothic church and its neighbour, but that in the same building there was often little correspondence between the different parts. Windows might be narrow or broad, columns of cylindrical or polygonal form, &c., and the character of the masonry might vary as if produced by workmen who differed in ability. But as soon as, after much investigation, it was ascertained that Gothic represented the work of various periods, then the apparent confusion became orderly and representative of history. It was therefore excusable for men who were disposed, like some of those who utilised Classic models, to believe that perfection had been reached, and that the wisest course would be to avoid producing any form which was not warranted by precedent.

It is needless to say that many of those who are most enthusiastic about Gothic did not adopt that view. Or, if they partially admitted it, the reason was they were afraid of being considered revolutionary and unsafe. Pugin was a zealot, but he never had the opportunities to store his mind or his note-books with details of ancient buildings. He was little more than a boy when he had secured a large practice. The want of definiteness in his knowledge as regards detail was suggested by the alteration in the title-page of his "Contrasts." Originally it was "A Parallel between the Noble Edifices of the Fifteenth and Sixteenth Centuries and similar Buildings of the Present Day," while in the second edition "Middle Ages" was substituted for the two centuries. He was confident that he had grasped the true spirit of Mediævalism, and when we remember how limited was his preparation his buildings are remarkable. But his success was sufficient to demonstrate that an exact study of details was unnecessary.

There were many architects who considered his buildings simply as examples of the Puginesque, but the words if not the practice of some men tended to demonstrate that an exact imitation of English work was not called for. Street declared that the practice of architecture, *i.e.* of Gothic, was seriously impeded and hampered by conventional restrictions. Men were blamed because, although acquainted with ancient precedents, they could not produce ancient authority to warrant the legitimacy of what they did, or because the authority might be derived from some other country. In other words, he desired foreign elements in English Gothic. Architects like Burges gave most of their attention to foreign Gothic and did their best to imitate it. The annual report of the Church Building Society acknowledges indebtedness to the services of the late John P. Seddon. But he advocated individuality rather than faithful adherence to ancient Gothic examples. Styles, he thought, might be useful to the antiquary, but he believed they were the bane and hindrance of architects, and he advised that each architect should shun plagiarism as a stain upon his reputation. Lofty and graceful proportion, vigorous light and shade, fairy tracery and fretted vaulting were not, he said, a Gothic patent. The well from whence they were drawn is open to us, and we may do more and better than the architects with whom such features are associated.

It is well to bear in mind that at a time when Gothic was supposed to be supreme, there was a spirit of revolt among its most zealous adherents. Then when its power declined, it was inevitable that chaos should come again. If Classic was treated with freedom, and we might say with license, who could expect that Gothic would become more regular and be marked by loyalty to ancient examples? The periods of the style were all indicative of efforts to supplant older details by others which were considered to be more favourable. The influence of that spirit of innovation has marked a great many Gothic designs which have appeared during the last thirty years. New ideas about restoration have also had the effect of making men believe that incongruities are only very venial faults, and that so long as the prominent features of a style or period are recognisable, it matters little if we see forms which would have amazed Mediæval designers.

With such conditions around him a young architect of only average ability, when invited to prepare designs for a church in some rural district or in one of the slums of a town, is likely to think that he must produce something striking, although the money to be expended is restricted in amount. In the majority of cases churches are now of the cheap species. But it is not considered desirable that poverty should be too obtrusively expressed. To make a little go a long way is really the task before the church architect. His design may be approved by the local clergy who know all the circumstances of the case and the requirements of the congregation. But that, of course, does not necessarily make the design a work of art.

It should also be remembered that the advisory committee of the Incorporated Society are not the best judges in all cases. They naturally look upon themselves as the guardians of ecclesiastical architecture and the enemies of all abberation. In the old days people who used to read the *Ecclesiologist* found it recorded that the tribunal of taste which then existed made no scruple about condemning designs by architects whose names will ever be associated with the Gothic revival, while those of their censors have long been forgotten. Some of the latter were personally in favour of departures from stereotyped forms. But officially they had to act as if planning and designing had been long ago determined for future ages. There is no doubt some of the designs submitted for approval in order to gain grants may be only weaklings of the art. But others may contain germs which deserve to flourish, and it would not perhaps be correct to say of the designs as a whole that they are unworthy of the purposes for which they are intended.

THE SIMPLON TUNNEL.

THE announcement of the opening of the Simplon Tunnel on Saturday by the King of Italy and the President of the Swiss Confederation must give satisfaction to all who take an interest in efforts to facilitate communication between nations. As the King remarked on the occasion, works of the kind inspire us with the expectation of a more civilised and happier future for humanity. The operations were commenced in August 1898, and the whole of the difficulties which had to be overcome may one day be related. But anyone who is accustomed to deal with tunnelling can imagine the number of contingencies likely to arise in executing a double line, each having a length of 12¼ miles.

Napoleon, in his march to conquer Italy, had to pass over the Alps mounted on a mule. Realising by experience the difficulties and risks of the journey and the impossibility of extending commerce unless there was a change, he ordered a road to be made over the Simplon. In the course of four years the work was completed, partly by French engineers, partly by Italian. The portion undertaken by the latter is generally considered as the most satisfactory. It is needless to say the new works were not generally approved. There were travellers who seemed to think that the glorious views would lose their interest, as they could be enjoyed by the multitude, while others prophesied that the work must be overwhelmed by avalanches in the course of a year or two. The road up to the present continues to be practicable, but the Swiss have demonstrated their prudence by fortifying the great cutting at Gondo, in order to put a check to invasion on one side.

Although the road winds in a remarkable way, the fact still remains that an elevation of about 5,000 feet has to be ascended. When railway enterprise had demonstrated the practicability of tunnelling on a grand scale, as far back as 1832 it was proposed to construct a tunnel from Brieg on the Rhone to a station on the Diveria, which runs into Lago Maggiore. From time to time the subject was revived, and in 1875 a company was formed for the purpose; but it could not be said that an attempt was made to start the works until 1895, when the Governments of Italy and Switzerland granted to the Jura-Simplon Railway Company the privilege of constructing a line between Brieg and Iselle, an extension between Iselle and Domo d'Ossola being the work of the Italian railway department.

As the two rivers, the Rhone and the Diveria, supplied immense water-power, it was decided to employ hydraulic drills at the Swiss end and at the Italian end. Brandt's system was found to be so effective that sometimes a length of over 20 feet was pierced in a day. Necessarily the operations had to be independent. It was impossible under the circumstances to definitely mark the course of the tunnel, and that the headings met is creditable to the mathematical skill of the engineers. At the Italian end it was found necessary to make provision for the use of steam-power whenever required. No less important were the arrangements for ventilation. Plant for the purpose was set up at each end, consisting of turbines which drove fans about 12 feet in diameter. As there were two lines of tunnel ingenuity was exercised in constructing passages by which air was kept in circulation in both of them. Great care had to be taken in controlling the ventilating machinery, for a little excess would extinguish the lamps which had to be used by the workmen. Another difficulty arose from the necessity of keeping the air sufficiently cool to allow the men to labour without fatigue. Provision was also made for illumination by electric power, but some authorities considered that not enough use was made of the facilities which electric light offered. Navvies have their own ways, which they uphold as if they were superstitions; and they may have thought there was greater safety with lamps, which could be controlled by the men who used them, than with a light which was generated beyond the tunnel.

At both ends there had to be buildings used for workshops for preparing the timber and other materials required in the operations. There were also houses for the workmen, some of whom had families. In fact, it might be said that a small town had been created both at the Italian and Swiss ends.

English railway tunnels are commonly about 24 feet in greatest width, while a double line of rails has to pass through them. The width of each tunnel on the Simplon line is only 5 metres, or 16 feet 3 inches. The height from the permanent way is about 19 feet. From centre line to centre line the width is 17 metres. The section is not uniform throughout, for the depth of the lining varies according to the nature of the strata. One of the tunnels is not completely constructed, for it is believed that at first one will suffice for the traffic. In excavating, a drift was cut at the bottom 3 metres wide and 2 metres high. Then at regular distances shafts were cut to the upper heading, and finally the material of the sides was removed. The timbering of the lower drift was retained until all above it had been removed. The hydraulic drills were invaluable, and in some parts holes of over 30 feet in length were pierced in twenty-four hours. Two kinds of explosives were utilised. The cross galleries and the second tunnel were used as refuges during the explosions, and owing to the carefulness of the Italians, who were mainly employed, the accidents were few. Horses removed the stuff after the explosion, but the confined air did not agree with them, and their death-rate was high.

The tunnel, as we have said, is lined throughout, the thickness varying according to the pressure expected to come on the masonry. In other words, it was thicker where the work appeared likely to settle. The side walls to the springing were first erected, and for the curved heading steel rolled beams were employed, which were bent to the contour. On them a lagging of boards was placed, and the construction of the arch became comparatively easy and was more uniform than if timber centres had been employed. The absence of framing which would be required with the latter likewise allowed more ample space for raising materials from the waggons. The drainage of so large a tunnel required the utmost care. The water is carried behind the lining to a drain which runs along a little below the level of the permanent way.

The Simplon Tunnel is the fourth which now passes through the Alps. The Mont Cenis Tunnel was commenced in 1857, and for about three years the boring for the explosives was performed by hand. If continued in that way the tunnel would have taken at least thirty years to complete. By the use of drills which were operated by compressed air with the aid of water-power the rate of progress was trebled. It required, however, about thirteen years before the tunnel could be traversed. About a year after the two headings were connected the tunnel was opened, and has now been about thirty-five years in operation.

The success of the Mont Cenis Tunnel was so manifest that within a year the St. Gothard Tunnel was undertaken. For some months boring by hand labour was employed, for owing to the eagerness of the promoters they did not wait until the drills were ready. Experience enabled the tunnel to be completed in about seven and a half years; the tunnel is 9¼ miles in length. The third tunnel beneath the Arl mountain is 6⅓ miles long, and was completed in three and one-third years owing to the improvement in the drills. The Arlberg Tunnel was also the cheapest of the three, costing only 108*l.* per lineal yard, whilst the St. Gothard Tunnel cost 142*l.*, and the Mont Cenis 224*l.* It will thus be seen that even with such exceptional works experience and economy go together.

The Simplon Tunnel, as we have said, has been a long time under consideration, and from the objections raised it might be imagined that tunnelling beneath the Alps was not already accomplished. As the line would have to be at a depth of about 7,000 feet below the Alps, it was thought that the heat and difficulty of ventilation would cause the tunnel to be ill-adapted for the purposes of a railway. It remains to be seen whether any novel difficulties will arise, but it may be taken for granted that as a large number of workmen have been able to live at so low a level, passengers in railway carriages are not likely to be called on to endure much inconvenience. Besides, the problem of ventilation is not a mystery, and fresh air can be compelled to traverse the tunnel to any extent that is considered desirable.

Tunnels, unfortunately, which run between different kingdoms can be considered as aids to invasion of one or other of them. If that objection could be removed channel tunnels between England and France and Scotland and Ireland would be started within a year. At present it does not seem probable that either Italy or Switzerland will go to war with one another, or as an allied army to attack an adjoining country. The new tunnel must therefore subserve the purposes of peace, including greater facilities for trade. The completion is not only a great engineering event, but the creation of an instrument which, like the humblest road, may aid in the purposes of civilisation.

FANTIN-LATOUR.

THE high prices paid on Saturday at Christie's for works by the late Fantin-Latour, while paintings by English Academicians were bought at prices which were surprising from their insignificance, are evidence that the French painter is at the present time one of the few foreign favourites of the English public. M. Jérôme Tharaud visited him a few months before his death, and he gives an account of his experience in the *Figaro*.

"I found him," he writes, "in the Rue des Beaux-Arts, alone with a goddess seated on a cloud in the atelier he rented when he was eighteen and had just come from the provinces to Paris, and in which he lived during the rest of his life. The countenance of the old master was rosy and white and as delicate in colour as an apple blossom. He wore a green shade in order to protect his eyes. The stove was lighted, and the hail which beat against the windows of the atelier helped to create an intimacy which was adapted to the recalling of souvenirs. A cat who jumped towards a palette which was drying near the stove gave an opportunity for talking.

"'You see that palette,'" said Fantin-Latour; "'it is made up in the same way as that of Delacroix towards 1859. The colours are pure, clean, well apart and the whole is clear and gay. But to-day, is there anybody who cares about colour? My real contemporaries have vanished. Can our modern exhibitions possess interest for a man who was dazzled by the vision of the Salon of 1859, to which Delacroix had contributed so many of his masterpieces? At that time he was displaying the whole force of his genius, but the public had ceased taking an interest in him. The few survivors of romanticism had renounced him, for they never pardoned his abandonment of romanticism in order to discover himself.' M. Fantin-Latour spoke so warmly of Delacroix and with so much veneration, I asked him whether he had known the painter. He replied, 'Alas! no, I did not know him, and that is one of my regrets. No artist's life was more beautiful. He was a true aristocrat, full of scorn for the crowd. Public opinion had no influence with him, neither praise nor calumny could turn him aside from his route. He was a true model for artists to follow. It is now impossible to describe all the harm that has been done by criticism and advertisements. Every day we hear of some new genius who has been discovered by a journalist. And it happens that many a man who may be happily endowed becomes a fool. We are praised, condemned, advised, pitied, in fact people busy themselves too much about us. Many artists have I known who were spoiled by writers. Take Courbet as an example. He came back from Germany full of enthusiasm for woods, lakes, mountains and deer. He painted in a true way. One day, however, Prudhon persuaded him to imagine that he was a thinker, a philosopher, and from that time Courbet became an insupportable talker and a bad painter. In place of following his own instincts he invented imbecile theories. Look also at Manet, who was launched by the journalists. He did not became a Socialist, like Courbet; he did worse, he became a worldling. His atelier was like a fair. The whole boulevard could be seen in it. I could not visit him. However, he was an exquisite, a child. Baudelaire loved him, and also Gautier, the only littérateur who was able to understand painting. Gautier, being the older, regarded Manet and myself in a friendly way, but with a superior and indulging manner. I painted his portrait, but he scared me. I was one of his admirers, although I was not able to read his books, and on that account I was afraid to appear before him on account of my ignorance, and consequently I was silent. But there was no need for me to speak—he did all the talking. He asked me one day if I had read the "Mémoires d'Outre-Tombe" (the posthumous work of Chateaubriand). He described it as the finest work of the century in a tone that would allow of no objection. Gautier disliked the critics who were enthusiastic about imitators of the early primitives—artists who had neither grace nor passion.'" M. Tharaud endeavoured to defend at least one of the French primitives, but Fantin-Latour would not admit that the men who were known as such were entitled to the name. They were mere imitators of the artists of Fiesole and Bruges. The true primitives were Watteau, Chardin, Fragonard, and not the men who painted figures like those made of gingerbread with emaciated bodies.

"This disdain of the primitives and disgust of asceticism was in keeping with the atelier itself, for on the walls were copies from Veronese, suggesting the love of paganism and the Renaissance in the city of Titian and Giorgione. And yet Fantin-Latour had no more visited Venice and Florence than he had known Delacroix. Nor was he eager to journey to Italy. 'What should I do in Venice?' he asked. 'Ricard told me that the finest works of the Venetians are in the Louvre, and I know the Louvre well. In it I passed my youth, for I had no living teacher. The dead are the best teachers, and they are neither irascible nor tyrannic. At present students of art scorn to copy the masters; they labour, it appears, after nature. Fools! they begin where they ought to finish, for nature is the most inaccessible of all masters. They paint open-air landscapes. I love Corot, I love Rousseau, but they have had too many imitators. The human face has more mystery and beauty than the largest tree or the most complicated moonlight scene.'

"The words seemed to come from the depth of his heart. No painter has shown more affection for the human countenance. For his own satisfaction, for ours and for those who will come after us, he has made true representations of the gestures, the eyes and the attitudes of some of the men who have had most influence on their contemporaries, such as Baudelaire, Rimbaud, Manet, Verlaine, &c. Fantin-Latour has painted them in groups gathered round a piano or an easel. What chapter of literary history is equally effective in recalling those men? Works of that kind he produced in his youth. But upon his easel was the painting of a goddess, a dream-like pagan image of sensual grace, partly concealed by a cloud. 'That,' he said, 'is a painting of an old artist. I have first copied the masters and then nature. But for some years I have painted my dreams. Little by little in growing old I have passed from reality to dreams—and the voyage will continue for the rest of my life.' That voyage has come to an end. After having discovered all the secrets of his soul it was a happy destiny for an artist who, before he was touched by the finger of Persephone, has expressed his thought of the future in the most frank manner."

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A SPECIAL general meeting of the Institute of Architects was held on Monday evening last at Conduit Street, W., Sir John Taylor, K.C.B., vice-president, in the chair.

On the motion of the Chairman the following resolution, passed at the special general meeting of May 7, was confirmed:—"That the President and members of the Council for the current session do retain office until the conclusion of the Seventh International Congress of Architects to be held in July, and that, in order to give legal effect to this resolution, the provisions of by-law 30 affected thereby be temporarily suspended."

Mr. Alexander Graham (hon. secretary), at the ordinary meeting which immediately followed, announced the decease of Mr. Edward Salomons, who was elected Associate in 1851 and Fellow 1860. The name of Mr. Salomons, he said, was familiar to all of them as an architect of high repute in Manchester. He was president of the Manchester Society of Architects on two occasions, and some years ago he represented his Society on the Council of the Institute.

A vote of condolence and sympathy was passed to the family and relatives of the deceased.

Mr. Paul Waterhouse, M.A., read a paper on

The London Traffic Commission Report.

The author centred his attention chiefly on the proposal of the Commission that the traffic congestion of London should be relieved by certain alterations of existing streets, and notably by the construction of two new thoroughfares, one traversing the town from north to south, the other linking Bayswater with Whitechapel. The architectural problems connected with these new streets he put briefly in the form of three questions, viz. (1) Granting the necessity for two new thoroughfares more or less in the localities selected by the Commission, what attempt, if any, should be made to control the architectural treatment of the new buildings which will form their frontages? (2) what relations should these new roads bear to existing roads, streets and squares? and (3) what will be their effect as regards the destruction and retention of existing buildings of value or interest? Alluding to the question of locomotion, the author noted that the Commissioners' proposals were based on the continued use and development of surface tramways. Recent experience of the motor omnibus, however, had upset the Commissioners' decision "that tramways would continue to be the most efficient and the cheapest means of street conveyance." This question of locomotion affected the architectural problem in two points. In the first place, there were objections to the direction and position chosen for portions of the new avenues, the choice of which had been regulated by the location of existing lines of tramway. Secondly, the width recommended for the main avenues—viz. 140 feet—was obviously an outcome of the proposal that each avenue should be encumbered with four lines of tramways. If these lines were given up wholly or partially a less width—say 100 feet—would be acceptable. Discussing the Commissioners' plan, the author pointed out that the map the Commissioners had made use of was not a scale map, and their intentions were not very clear. He had, therefore, transferred the problem to a survey drawn strictly to scale, and he presented for consideration, not the Commissioners' authentic plan, but his own interpretation (drawn to true scale) of their intentions.

Dealing first with the west-to-east avenue, which it was proposed to strike north-eastward from Hyde Park at a point adjoining Victoria Gate, forming at that point a continuation of the Bayswater Road, which it was intended to widen all the way from Shepherd's Bush station, the author pointed out the undesirable oblique junction of two important thoroughfares which would take place, and showed how by a slight deviation it could be overcome. As to the question whether in adopting the line of an existing street the widening should be effected by the abolition of the existing buildings on both sides, or by the pulling down of one side only, leaving the remaining frontage to form the building line of the new street, the author recommended in the case of Connaught Street the destruction of both sides, so that Hyde Park Square might indicate the axis of the first straight length. At Connaught Square he would appropriate the north portion of the garden, leaving the south of the square intact; and in Portman and Manchester Squares the new street would follow respectively the north and south sides. Coming to the junction of Regent Street and Portland Place, he proposed the removal of Queen's Hall, and the formation of a circular roadway round All Souls Church. At this point he offered for consideration a route alternative to that of the Commission, giving reasons for its adoption and illustrating it by means of a specially prepared plan showing the route proposed. Passing through East Marylebone, the avenue, he said, could glide between the churches of St. Andrew and All Saints, and cross Berners Street nearly at right angles. Touching on the absorption of square gardens which the adoption of either the Commissioners' scheme or his own would entail, the author observed that the loss of air-space would be nil; the ground would be absorbed not by inhabited buildings, but by houseless space. The avenues themselves would be substantial additions to the breathing-ducts of London. He proposed also that at certain points in the route new open spaces should be formed. The route he suggested would lead through Russell Square and run parallel past the Foundling Hospital. Here, explained the author, contact was rapidly being approached with the great north and south avenue, a feature of the Commissioners' scheme most open to criticism. Assuming that the official lines were accepted, the abrupt changes of level which characterised Mount Pleasant would lend themselves admirably to what was undoubtedly desirable at the intersection of two such gigantic roads, viz. an over-and-under or viaduct treatment. At the eastern end of the avenue there was a problem which the Commissioners seemed hardly sufficiently to have considered. The plunge through the Finsbury district, cutting through Finsbury Pavement House and the site of the displaced Roman Catholic church, involved the destruction of a mass of very costly new buildings and the mutilation of an attractive formation of frontage—the curve of Finsbury Circus—which seemed likely to result in a very heavy expenditure, not sufficiently balanced by compensating advantages. Might not the avenue instead of passing along the south of Liverpool Street and Broad Street stations, cross the rails at a point north of the station buildings, where a road bridge already exists? If this proposal were adopted, the avenue would connect with Whitechapel Road and Commercial Road at the same point as is intended by the Commission, but it would fall in from a more northerly direction and would face the end of Leman Street.

As regards the north and south avenue, the author pointed out the very serious difficulties in the way of adopting the route proposed by the Commissioners, owing to the many important buildings between Holborn and the river, and suggested an entire change. Assuming that the Temple Pier was the point at or near which a new bridge was wanted, why not strike a nearly straight line for a magnificent street running from the great entrance of the Law Courts to the dome of Bethlem hospital? This street would, of course, be treated as regards level in the same way as Waterloo Bridge Road. That is to say, it would not descend to the level of the Embankment, but retaining the high level secured at the Fleet Street or Strand end, it would pass over the Embankment Road and would only descend on the south side of the river to pass under the railway lines near Waterloo Junction Station. It would, in fact, pass over Commercial Road, which would only need to be slightly dipped, and getting level with Stamford Street would pursue the existing roadway levels under the railway. The south end was sufficiently near the Elephant (the southern haven of the Commissioners), and the junction with the Strand was an approximation to the eastern horn of Aldwych. From Aldwych northward the avenue was ready made to Theobald's Road, and thence the bargain already effected between the London County Council and the Duke of Bedford for the widening of Southampton Row seemed to suggest that the avenue should take that line to Russell Square, where the author proposed the two great avenues should intersect. This intersection would be in a sense the most important street centre in London. It was essential that it should be an over-and-under intersection, an engineering feat which, if steep gradients were to be avoided, must influence, as far as levels were concerned, some hundreds of yards of roadway on each side of the intersection. If it were possible to acquire enough land to extend the open space some 300 feet eastward the inconvenience of the changes of level by making the intersection, so to speak, in the open would be minimised. To avoid robbing Bloomsbury of its best breathing space, the author suggested the open ground being left free of building. The cutting and viaduct proposed would meet, not in a huddle of shops, but in an open pleasaunce of grass and green trees, nearly all the best of the present noble trees remaining undisturbed. North of Russell Square the line of route might continue along Woburn Place, effecting the widening on the left-hand side so as to avoid injury to St. Pancras Church, and taking beyond the Euston Road the track of Seymour Street. But here, again, the author suggested an alternative going east of St. Pancras Church. Assuming that the Commissioners were right in their idea that Upper Holloway was the district with which connection must be made, it seemed obvious that the Camden Road was an existing thoroughfare of which advantage should be taken. The author claimed that by carrying the avenue up to his proposed termination near Camden Town Station he had not only brought it within touch of a ready-made avenue to Holloway, but had put it into a position from which connection could at once be made with Highgate and Hampstead trams, and in the future avenues could be prolonged thence to either or both of these places.

The author claimed for his new north and south route that it performed its purpose with more dignity, at less cost, and with far fuller efficiency than the Holloway-to-Elephant route of the Commissioners. It collected traffic from Euston, King's Cross and St. Pancras Stations with much more impartiality than theirs. It utilised a mile and a half of existing roadway almost unaltered (in Camden Road and Kingsway), and avoided a mass of interference with sentimental and other interests by abandoning the hopeless attempt to get from Holborn Bars direct to the river.

As regards the question of architectural design in the streets themselves, the author deprecated any insistence upon uniformity of design on a large scale, referring to the failure of recent attempts to dispose of valuable frontage sites under conditions which debarred the free exercise of personal architectural wishes and commercial requirements. Individualism in street architecture in London was by no means unsuccessful. Our atmosphere, again, rendered ineffectual that long-drawn straightness and uniformity which in continental cities had an intrinsic merit. The author assumed, however, that if his or a similar scheme were eventually adopted certain points would be selected as demanding homogeneous and continuous design. For instance, the first departure from the Bayswater Road, the All Souls circle, the "place" opposite the British Museum, Russell Square, the bridge over the Thames and the viaduct over the Embankment, with their immediate approaches, would necessarily be committed each to an architect (not necessarily all to one man) for continuous connected treatment. If the proposed Traffic Board were appointed, it must certainly have as one of its chief duties the safeguarding and promoting of a concrete and definite plan of street improvement, and this could only be carried out in consultation with one or more who were architectural artists in the best sense. He suggested the appointment of an architectural adviser to the Board (or, if preferred, three architectural assessors); that the architectural adviser should not himself design any portion of the new streets, unless in the matter of bare plan; that for each building centre demanding continuous treatment a separate architect should be appointed, and that on no consideration whatever should individual license on the part of lessees or purchasers be allowed to prevail within the boundaries of such prescribed portions; finally, that on all parts of the new frontages perfect liberty of design and choice of architect should be allowed, subject to the control of the Board's architectural assessor or assessors, who should have absolute powers of censorship over all designs submitted. The author, in conclusion, pointed out some of the difficulties in the way of the Commissioners' projected device for crossing Piccadilly and put forward an alternative route.

Sir Melvill Beachcroft, L.C.C., proposed a vote of thanks to Mr. Waterhouse, though he said he was about the last person in the room who ought to undertake such a task. He had no special knowledge of the Traffic Commission. He was an old member of the London County Council, and one who had had the privilege of serving on the improvements committee of that body, especially during the period when they were considering the great scheme of Holborn to the Strand. He had also opposed the promotion of a scheme for a new thoroughfare from the Marble Arch to Whitechapel. He had listened with great interest to the instructive paper, and agreed with the author on many points. Mr. Waterhouse had rightly asked what they were to aim at in such a scheme, because in anticipation of any recommendation of the report of the Commission, it was desirable that they should be agreed as to the area of the improvement and the probable cost. He was afraid it would be some time before they should be able to deal with any such scheme, for he had heard that something like a sum of 25,000,000*l.* would be involved. He entirely agreed with what Mr. Waterhouse had said about surface tramways. Judged by the possibilities of the motor omnibus, they could not be sure that tramways in the future would occupy the streets of London. The question of the architectural treatment of all new streets was one of vital and imminent importance. Unfortunately there was no architectural minister to supervise building developments, but he earnestly hoped that in the event of any such scheme as that suggested in the paper being proposed there would be some authority that would have power over the architectural treatment of the streets.

Sir Geo. Bartley, K.C.B., who seconded the vote of thanks, said he could not enter into great length upon the report of the Traffic Commission. It must be remembered, however, that the subject the Commission had before them was the traffic of London, and although he agreed on many points with the paper, yet it was not, he thought, the business of the Commission to go into the architectural question very fully. He must defend the Commission when it was suggested that they had gone mad on the trams. The great problem the Commission was asked to consider was that of the rapid locomotion of people for business purposes; but while tramways offered a possible solution, he had in a supplementary report suggested the careful consideration of the motor omnibus. The scheme suggested in the paper would be an opportunity for making London more beautiful than it was, and the architects of England were advised to keep their attention upon such proposals.

Mr. H. H. Statham said he was really sorry to hear Mr. Waterhouse sum up rather against the idea of symmetry in the architectural treatment of those great streets, although he had mentioned that the treatment in continental cities had merit. The speaker believed that for a city to be dignified in the great thoroughfares there must be symmetry in the buildings, though improvements with that object in view might mean some sacrifice to property owners.

Mr. W. D. Caröe said it was rather characteristic of the feeling shown towards architecture in this country that the instructions furnished to the London Traffic Commission should not make the slightest reference to architecture.

On the motion of Professor Pite, seconded by Mr. G. W. Hudson, it was agreed to adjourn the discussion until the meeting of June 11.

The Chairman announced that Mr. G. A. T. Middleton had given notice of his intention to move at the next meeting "That the Council be instructed to consider the practicability of including all architects practising in the United Kingdom within the scope of the Institute."

THE ARCHITECTURAL ASSOCIATION.

THE members' dinner of the Association was held on Thursday evening, May 17, in the Georgian Hall, Gaiety Restaurant, Mr. E. Guy Dawber, president, in the chair.

Among those present were:—Messrs. Edwin T. Hall, Alexander Graham, Basil Champneys, Sir Henry Tanner, H. T. Hare, F. Hooper, J. Osborne Smith, W. H. Jamieson, J. Douglass Mathews, H. Tanner, jun., L. Ambler, A. Keen, F. T. W. Goldsmith, Owen Fleming, H. Lovegrove, T. C. Yates, L. W. Green, W. A. Pite, John Murray, Cole A. Adams, J. D. Crace, A. H. Ryan-Tenison, A. Bolton, E. M. Rüntz, Ernest Rüntz, F. Durrant, H. P. L. Cart, W. A. S. Pettit, D. A. Stephens, H. C. Willies, F. Yerbury, R. O. Bridger, C. Buck, H. A. Douglass, T. Campbell Pope, W. Wonnacott, F. J. O. Smith, Francis R. Taylor, G. H. Lovegrove, W. I. Travers, G. S. Mileham, H. J. West, A. E. Bullock, G. H. Jenkins, A. D. Leroy, G. C. Wilson, J. H. Squire, H. F. Waring, Alan Potter, A. N. Peckham, T. A.

Lodge, P. J. D. Webster, C. A. Farey, D. M. Wilson, E. Stanley Hall, C. Williams-Ellis, A. W. Earle, T. O. Foster, C. W. Ferrier, G. H. Paine, H. P. Gordon, W. Stewart, J. A. Payne, A. H. Belcher, J. Maclaren Ross, R. Douglas Wells, R. Dircks, Walter Cave, F. W. Marks, J. F. Bull, S. C. Arding, E. Carless, J. Gandy, F. E. Hulme, W. A. Forsyth, F. H. Atkinson, C. R. Webb, H. G. Tayler, H. Saffery, S. J. Tatchell, A. Huntley, W. G. B. Lewis, W. E. R. Randall, F. R. Betenson, Chas. Tanner, T. Frank Green, R. S. Balfour, G. McCredie, F. M. Elgood, W. L. Trant Brown, E. Greenop, H. P. G. Maule, W. Hatchard Smith, P. E. Webb, G. F. B. Daniell, G. Northover, G. Drysdale, R. F. Wheatly, S. Towse, C. R. Davy, E. Gunn, H. Coleman, C. Pond, F. Dare Clapham, E. J. Tanner, M. G. Pechell, K. Gammell, J. M. Kendall, Maurice E. Webb, P. W. Lovell, H. A. Hall, Stanley Hamp, H. Harden, H. Passmore, Frederic Upton, Courthope Munroe, F. J. Ronald, W. Leggatt, W. Paul, Cyril Caudwell, H. J. Worrow, P. J. Westwood, E. G. Allen, J. Crowe, H. F. Saunders, and the secretary, Mr. D. G. Driver.

The toasts of "The King," "The Queen and Members of the Royal Family" having been honoured,

Mr. Arthur Keen proposed "The Royal Institute of British Architects," making a brief speech because he assumed before such an assembly it was not necessary to say a great deal about that body. Indeed, he continued, the task of submitting such a toast was almost akin to proposing one's own health, so close were the relations of the Institute with the Association and so many present were members of both Institutions. He believed all whom he addressed were satisfied that the Institute represented the very best interests of the profession and strenuously endeavoured to do the best for architects. The Association itself was very much indebted to the Institute for the help that was always accorded to its work.

Mr. Edwin T. Hall, as a humble member of the Institute, wished to thank the gathering for the way in which they had received the toast. He need not, he said, assure them that the Royal Institute had an earnest sympathy with everything that was done in the Association. The Institute realised the zeal of youth, and they hoped for that enthusiasm which was found among the members of the junior Society. It was only by that enthusiasm that they could ever hold their places and cope with the demands of the present day. There was one name (Mr. Maule's) which stood out as an able director of the Association's zeal. Mr. Maule and his assistants were keenly interested in all that was done in the schools, and all the young men who went through the Association course owed a very great debt of gratitude to the teaching staff. Those present would know that the Board of Education connected with the Institute took the greatest interest in the schools, and Sir Aston Webb, Mr. Basil Champneys and others had manifested their appreciation. They were also aware that lately the Board of Examiners at the Institute had decided that the four years' course in the day and night schools of the Association shall exempt students from the intermediate examination, and he believed that any change of rule which exempted men from examination would be popular. They had had exciting times lately at the Institute with regard to the proposed registration of architects. He hoped the Association would agree that the best register of an architect's capabilities was earnest work, and to that alone should a man owe any reputation that he might gain in the world.

Mr. A. Ryan-Tenison proposed "The Architectural Association," and alluded to the help afforded to it by those members who, notwithstanding a busy practice, devoted many hours to helping forward its students. Anyone who visited the classes and the day school and saw the progress made by the students must feel proud of the work undertaken by the presidents and the body of members generally. Enormous strides had been made in the training of the younger members of the profession, which must bring great benefits and advantages to architecture.

The President, replying to the toast, said he was not going to talk a lot of platitudes. They knew he appreciated the honour of being their president, but he would not like the opportunity to pass without telling them how deeply he felt the kindness and help of the Council of the Association both in the last year and the first year of his term of office. Without their help the duties of president would have been difficult to carry through successfully. He owed also a very deep debt of gratitude to the honorary secretaries and also the secretary, Mr. Driver. He sometimes thought that progress in a body like the Association when its affairs ran smoothly was comparable to travelling in a train, and those who sat comfortably inside were apt to forget the Driver. The position of the Association in the architectural world was so well established that he need say nothing about it. They were firmly established in their new buildings, every year their numbers were increasing, and every year, so he understood from their late secretary, they were progressing financially. He would not bore them with an account of the debt standing against the new premises, for it was practically wiped off. Educationally he thought the Association had progressed by leaps and bounds, and he believed they could now fairly claim to be not only the pioneer, but also the chief architectural teaching body in the whole country, and he was convinced that the work of their students was equal to that of any other educational department. Mr. Hall did his duty in mentioning the deep debt that they all owed to Mr. Maule, but he, the speaker, thought that they should not let the occasion pass without expressing their thanks to Mr. E. T. Green for the way he was conducting the evening school, and to their old friend, Mr. Lewis, for all that he had done to make the education what it was. He was very glad that they had established an athletic and social club, for he believed innovations of that kind would tend to the benefit of the members of the Association. He had little more to say except to introduce their new president. Mr. Balfour's work as an architect, of course, they knew, and also his work as a member of the Association. He was honorary secretary for four years, and he had been vice-president, and, as was hinted, he had that admirable adjunct of youth on his side, and they must feel that the welfare and honour of the Association would be well maintained. In conclusion, he would like to offer them his very hearty thanks for the pleasant two years he had had in presiding over the Association.

Mr. W. Cave proposed the toast of "The Guests," for whom Professor Hulme briefly replied.

THE SOCIETY OF ARCHITECTS.

Twenty-seven sets of designs have been received from students of the Society in competition for the Travelling Studentship Competition, 1906, and the Council have placed first the design marked No. 6. The author is Mr. Victor H. Grist, 4 Marlboro' Avenue, Reading, who thus becomes the first holder of the Society's Travelling Studentship, which is of the value of 25*l.*, and carries with it the silver medal of the Society.

Some of the competitors considerably exceeded the limit of cost, and were disqualified on this account, but, in view of the number and general merit of the designs submitted, the Council have allocated a special prize of the value of 3*l.* 3*s.*, placed at its disposal by the president (Mr. Albert E. Pridmore), to the author of design No. 16, Mr. Alan G. Brace, Sunny Croft, Knowle, Warwickshire.

The following designs are considered worthy of special mention:—No. 12, Mr. Geoffrey Morland, 73 Morland Road Croydon; No. 13, Mr. Sydney G. Scales, 64 St. John's Road, Westcliff-on-Sea; No. 24, Mr. Robert O. Jackman, 27 Brunswick Road, Kingston Hill, S.W.

A public exhibition of the designs will be held on the Society's premises from May 28 to June 2, inclusive, from 10 a.m. to 8 p.m., to which admission will be free on presentation of visiting card.

Arrangements are also being made for the designs to be exhibited at Plymouth in due course. A detailed criticism of the drawings and a reproduction of the winning design will be published.

Thirteen candidates presented themselves for the competitive examination in architectural history and freehand drawing held on May 10, in London, with the result that the scholarship, which is of the value of 10*l.* per annum, tenable for three years, has been awarded by the Council to Mr. Harold Fletcher Frew, of the Gables, Tuffley, Gloucester.

The Haldane Travelling Scholarship, of the annual value of 50*l.*, has been awarded by the Haldane Trust to Allan D. Mainds, painting student of the Glasgow School of Art. There were three candidates—two painting students and one architectural student. The judges were Mr. Alexander Roche, R.S.A., Mr. R. M. G. Coventry, A.R.S.A., Mr. John Henderson, artist, and Mr. Alexander N. Paterson, M.A., architect. It has been decided that Mr. Mainds will visit the principal galleries in Italy and France.

NOTES AND COMMENTS.

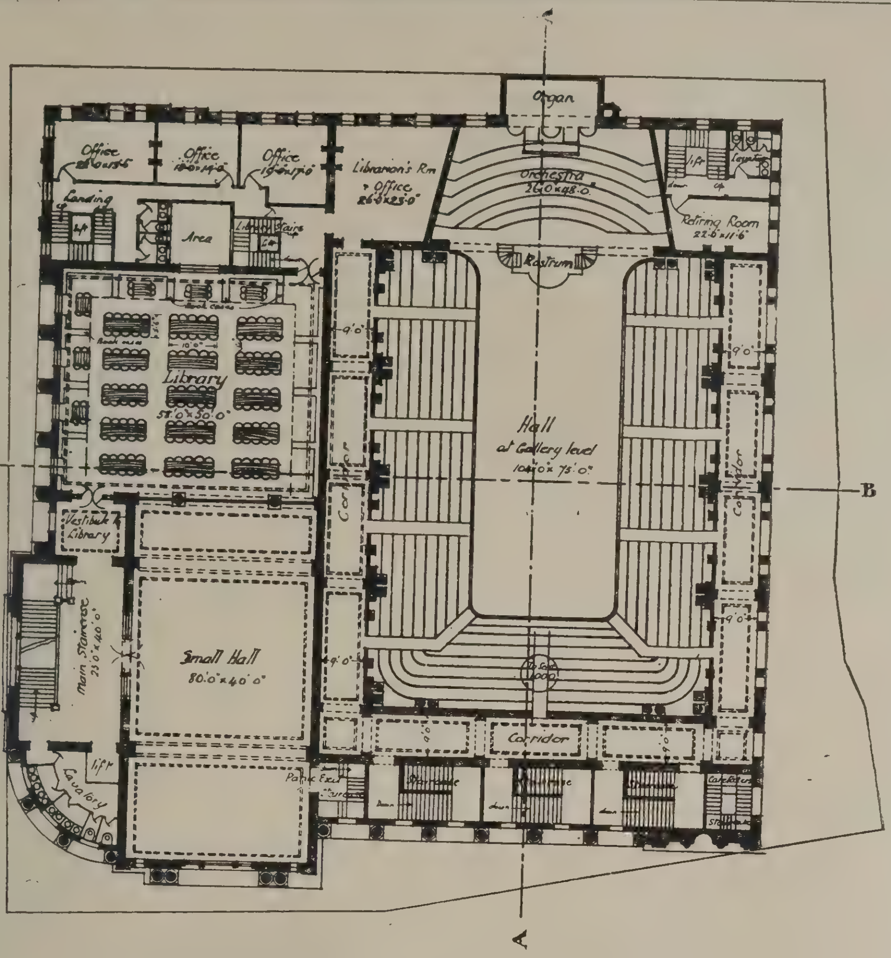
Water is necessarily a precious commodity in the Metropolis, and the Metropolitan Water Board are expected to utilise the inadequate supply as profitably as they can. But it is one of the misfortunes of all departments possessing authority in England to insist on rigid rules to which there is to be no exception. A case which was heard on Monday, before Mr. Fordham at the North London Police Court, shows the inconvenience which rigidity of administration is likely to cause. Everyone connected with building in London is aware that each of the companies had a tariff for supplying water for different purposes, the amount being generally determined by the cost of the building about to be erected. Some companies preferred to charge according to the quantity which was determined by meter. It was the interest of the companies to facilitate building, for it meant the creation of new customers. There might be occasional grumbling, but as a rule disputes never found their way into the courts. A new system we fear is about to be introduced, if one may judge by the case which Mr. Fordham has decided. Mr. Paine, a builder, having some land at Upper Clapton, desired to erect additional houses upon it. Accordingly he acted as he had done when the East London Water Company was in existence, and asked to be supplied with 25,000 gallons of water at the rate of ninepence per thousand. The water would cost 18*s.* 9*d.*, but he offered payment of 2*l.* 2*s.*, which would meet, as he thought, the expense of laying the supply from the main to the site. The Water Board declined to supply water by measure. They also stated that the builder was not the owner or occupier of any premises, and could only supply water on terms to be agreed upon by the company. Mr. Fordham decided that the land was premises, while at the same time it was land as distinct from buildings, and as such should be supplied by measure. He considered the sum offered by the builder as sufficient, and fined the Water Board in 40*s.* with 10*l.* 10*s.* costs. Whether the case will be brought to a higher Court has to be determined. But evidently the Water Board proposes to adopt the spirit inspiring Government Departments, and will endeavour to save trouble to the officials by raising obstacles to prevent the execution of works.

The Birmingham School of Art continues to be remarkably successful. According to the report which was presented by Alderman Kenrick on Tuesday, the school for the fifteenth successive year has taken by far the largest number of awards. The success of the Vittoria Street school is very remarkable. The committee proposed to increase the accommodation at that school by the building of an additional storey over one of the existing rooms. The total cost of the room and its equipment will be 500*l.* The number of students is practically the same as in previous years. The enlargement of the art gallery will be undertaken in due time. Meanwhile, and in spite of the congestion, gifts and loans of works of art have to be recorded. Both the gallery and art schools testify to the interest which is taken in the progress of Birmingham not only by the Council, but also by the citizens in general.

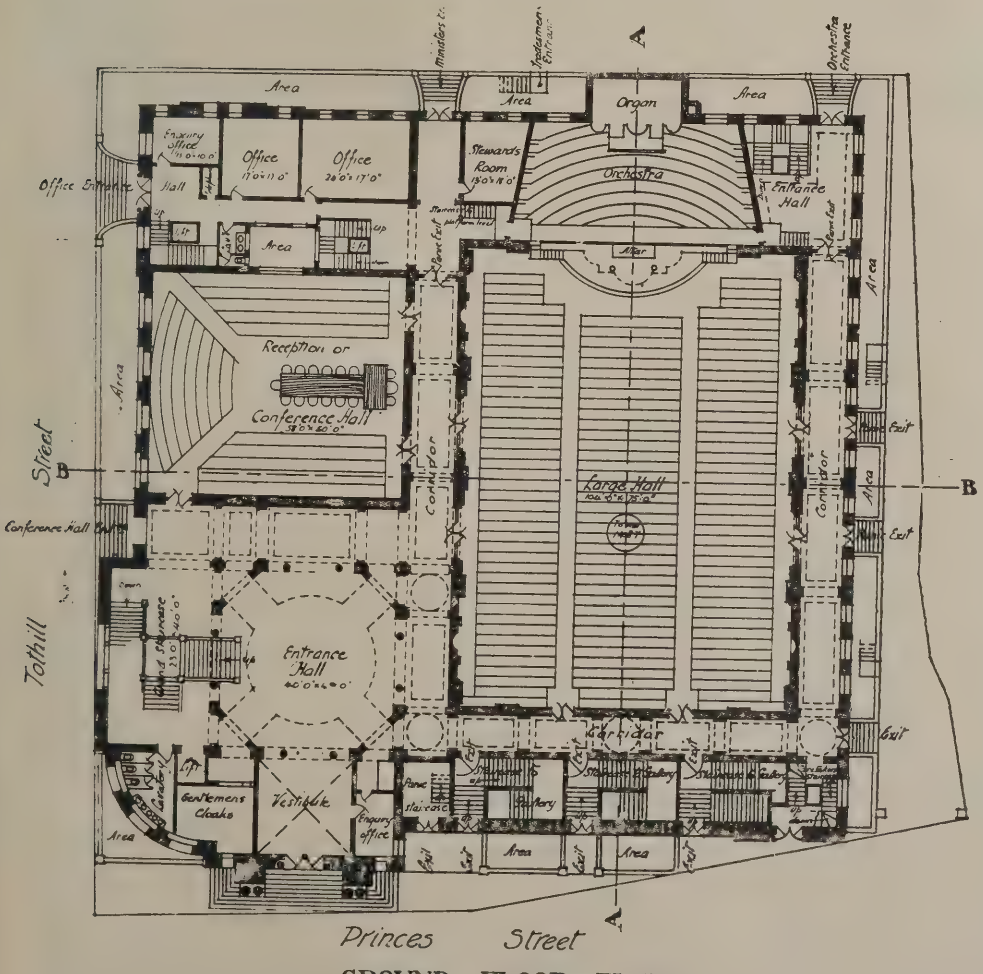
The decision given in the House of Lords a few days ago appears to indicate that there is little use in putting up notices about the risks of appliances, machinery, &c., as a precaution against accidents. In an engineer's factory at Gainsborough there was a goods hoist, and there was a notice on it that it was only to be used by workmen when in charge of goods. A joiner who wished to spare himself the trouble of walking to another floor entered the lift, and through some cause which is unknown he was injured and died. A claim was made under the Workmen's Compensation Act. The County Court Judge remembering that by the first section of the Act, "If it is proved that the injury to a workman is attributable to the serious and wilful misconduct of that workman, any compensation claimed in respect of that injury shall be disallowed," came to the conclusion that the joiner's death was due to neglect of the rule which was prepared for his guidance, and that neglect amounted to serious and wilful misconduct. A majority of the Court of Appeal took the same view. The case was brought before the House of Lords a few days ago. Lord Atkinson had some doubt about allowing the appeal of the widow because of the man's neglect of a rule which should be rigidly enforced in factories. But the Lord Chancellor and a majority of their Lordships could not believe that the entry into the hoist was serious and wilful misconduct. That it was wilful there can be no question, and that all breaches of rules made for the safety of workmen are serious every business man would maintain. Apparently employers to be safe must have an overseer to look after all the actions of their workmen.

The ground beneath Chicago has required great ingenuity on the part of architects and engineers in order to afford adequate foundations for lofty structures. It is to be hoped that permanency has been secured, but the defects discovered in the city hall are at least ominous. There has been so much alarm that it was necessary to appoint a commission to examine the building. Their report is not entirely reassuring, for they say:—"We find no evidence that the digging of the caissons has caused any damage to the building sufficiently serious to endanger its safety. The ceilings and walls of the sub-basement where the jail cells are located are badly cracked, and should be thoroughly gone over and repaired wherever necessary. Throughout the building the settlement has caused serious loosening of the plaster, the wood trimming and ornamental portions of the exterior stonework. This condition is now a menace to the occupants of the building and to the public passing it. All this work should be carefully gone over by competent persons and all loose material taken down at once." It must be allowed that the building has been regarded with suspicion from the time it was commenced. The piles for the foundations were arranged so close that when one was driven another was raised above the surface. The weight of the building was far from being uniform per square foot or per square yard, but the piers were all of similar dimensions. The building was no sooner completed than there was a settlement. In fact, the apprehension concerning the city hall had much to do with the revolution that took place in the manner of constructing foundations.

It would be interesting to know whether there is any definite reason when one jury differs from another, especially in cases where new evidence is not introduced. A case was decided under Lord Campbell's Act last week which had previously been tried on two occasions, and in both the jury disagreed. The case was brought by a widow and her two children against Mr. T. L. Green, a builder, and she sought 500*l.* for the loss of her husband. The man was not employed by the builder, but by a sub-contractor for the heating, and while he was moving a radiator the floor gave way and he died from his injuries. It was said that the foreman of the defendant should have warned the man about the unsafe condition of the floor. The defendant said that he had not invited the man or engaged him; the accident was caused by the man's own negligence. Mr. Justice Phillimore, having charged the jury, they awarded the widow 320*l.*, one child 120*l.* and another 60*l.* Judgment was entered for those amounts, with costs of the three trials. Cases of the kind do not improve the relations between contractors and sub-contractors. A builder's foreman generally takes it for granted that all the men employed by a sub-contractor are aware of the risks and know whether special precautions have to be taken in respect to weights. Compensation was certainly due to the family, but in this case, as in others it ought to be awarded on a more equitable basis.



FIRST FLOOR PLAN



GROUND FLOOR PLAN

ILLUSTRATIONS.

MASONIC INSTITUTION FOR BOYS, BUSHEY, HERTS.

COMPETITION DESIGN FOR WESLEYAN CONFERENCE HALL, WESTMINSTER.

We illustrate the design and the ground and first-floor plans submitted in this competition by Messrs. Ernest Rüntz & Ford, of 10 Walbrook, E.C. The main object in preparing the design was to impart a monumental character to the building to be erected. Other important characteristics were the safety of the public, simple and convenient planning and immunity from noise from street traffic as regards the large hall. As to the safety of the public, the requisitions of the authorities have been complied with, in view of the large congregations that would undoubtedly assemble on many occasions. A special feature is claimed in that the large hall and conference-hall are situated on the ground-floor level, thus enabling an arrangement of exits so as to give the maximum opportunity for a large gathering to get clear of the building in the shortest possible time in case of need. The arrangement of the remainder of the building is clearly denoted on the plans. The design is based upon strictly Classical lines, and it is claimed that the general grouping, particularly at the south-east corner facing Westminster, is of a monumental character and is a direct growth from the plan, which it is believed is simple and direct, thus leading to simplicity in treatment.

A YORKSHIRE GRANGE.

We publish four photographic illustrations of a country house recently erected in North Yorkshire. The whole of the exterior walls with the exception of the chimney-stacks are finished in rough-cast with stone dressings, the roof being covered with dark Staffordshire tiles. Messrs. H. O. Arnold & Sons were the contractors. The building was completed in accordance with the contract, and the house was occupied within eighteen months of starting. The house was erected from designs of the architect, Mr. Frank A. Tugwell, Scarborough.

47 MADDOX STREET, W.

THE premises shown in the illustration may be considered as having a sort of historic interest, as the building is believed to have been the earliest in London in which faïence was employed. The bay which was superseded only went as far as the first floor, and it was proposed to adopt a similar arrangement. Mainly through the efforts of the late Mr. Blashill, the projection was allowed to be extended. The whole of the faïence was produced by the Leeds Fireclay Company, Burmantofts, Leeds. Mr. W. A. Williams, of Orpington, who was the architect, regularly visited the work in order to make sure that the modelling and colour realised his intentions. The basement and ground floor were arranged for business purposes, the top floor being a workshop communicating with the shop, the intervening floors being planned to serve as chambers or a club. It was also arranged that a hydrant could be fixed in the area at top of bay, in order to allow of the whole front being washed down whenever desired. The site was difficult to deal with, the frontage being only 18 feet 2 inches. The building cost about 11,000*l.*

INCORPORATED CHURCH BUILDING SOCIETY.

THE annual general court of the Incorporated Society for Promoting the Enlargement, Building and Repairing of Churches and Chapels was held at the Church House, Westminster, on the 17th inst. The Bishop of Southwark presided.

The annual report, read by the Rev. W. B. L. Hopkins, secretary, showed that the income of the Society for the year 1905 amounted to 16,168*l.*, as compared with 7,875*l.* for the year 1904. Ninety-four grants were made during the year amounting to 7,480*l.* Since the Society was formed in 1818, 8,900 grants have been made and a sum of 912,761*l.* distributed. The committee thanked the honorary consulting architects, who give their services so ungrudgingly to the Society by examining with the greatest care the designs submitted to them at their monthly meetings. By the recent death of Mr. J. P. Seddon, the Society loses an able and conscientious architect and the committee of architects their president and secretary. The total estimated cost of the works proposed to be executed in the year ending December 31, 1905, was 258,633*l.*, or rather more than 13*l.* for each additional sitting; the proportion of this sum which is to be devoted to the erection of the thirty-one new churches containing accommodation for 15,748 (free for 15,002) persons is 174,613*l.*, or about 11*l.* 1*s.* 8*d.* per sitting.

Mr. Temple Moore, in moving the adoption of the report, gave from an architect's point of view a few thoughts and suggestions on the relations between the hon. advising architects for the Society and the architects of the various proposed works. Now the work of the hon. advising architects might be thus defined:—To criticise and advise on plans submitted of works proposed—first, as to construction; secondly, as to convenience and suitability of arrangement; thirdly, as to architectural design; fourthly, as to restoration of ancient churches.

Sound construction should be well secured under the carefully drawn rules of the Society; rules which, while they tended to secure good permanent buildings, were not by any means prohibitive of economical work in the truest sense of the term. Convenience of arrangement was easily dealt with, requirements in this way being usually more or less alike, and this matter was as easily governed by rules as construction. When they came to architectural design and the restoration of old churches their task was not so easy.

He assumed that one of the objects of the Society was to raise the standard of design in church architecture, so that (so far as lay in their power) not only solid and suitable, but also architectural church buildings might become traditional of the work which passed through the Society's hands. It was obvious that no rules except of a general nature could be laid down on the subject of design, and hitherto the honorary advising architects had refrained from interference, except where the design had been flagrantly bad or unworthy. He felt, however, that they should no longer be content to leave the matter like that. He granted that design was, indeed, a matter of personal taste and preference, but there was a certain correct and appropriate feeling in design upon the broad lines of which, despite diverse personalities, their advising architects could agree. If the Society was to have any real influence towards the raising of the standard of church work in building, the honorary architects clearly must criticise the designing and make suggestions wherever such were felt to be needed.

He regretted that, generally speaking, the standard of design in the new church work brought before the Society's hon. architects was often very inferior, and did not appear to improve. Perhaps, after all, this was not very surprising, for in these days of hurry and many special architectural needs not known formerly, church design had become very largely a special branch of architecture. The busy general architect, though an able practitioner, had not the time, or, it may be, the opportunity to devote himself seriously to this study. Therefore he suggested that the hon. architects should, sitting as a committee for the purpose, criticise and make suggestions on the design outside the printed rules. It might be objected that his proposal would have the effect of discouraging originality or novelty in design, but he did not think so, for novelty, when good, had a certain recognisable appropriateness and fitness. It was only when it was a novelty for the sake of novelty that it became a defect.

He believed that in most cases architects whose training, experience and general practice had not been in church work especially would welcome the suggestions of the committee. He did not expect to produce good architecture by rules or by committees of experts; he only said that friendly criticism and practical suggestion on the subject of the designs from the hon. architects in committee would, he thought, in most cases produce a higher quality of work.

In schemes for restoration there was some improvement; the great importance of the more careful preservation of their ancient churches was generally beginning to be felt, but here again they had a special branch of architecture, requiring very much experience, which did not fall in the way of all architects. He considered that the rule of the Society which gave the advising architects power to ask one or more of the members to visit the proposed work should be more frequently exercised even in the case of less important churches. It was sometimes difficult to make any really useful suggestions by merely inspecting drawings or even photographs of the building in its actual state. In short, he proposed that the committee of architects should become more sympathetic advisers and helpers in the various schemes laid before them, not only as to construction and convenience, but also as to design, so that architects of prospective works would be encouraged to seek their advice and help.

In conclusion, if the hon. architects could be put into direct communication with the architects for the works it would materially assist the good understanding between them. He ventured to make these suggestions in view of the great importance of the work which the Society sought to promote, with the hope that they might point to a means of increasing its popularity and adding to its already considerable influence in helping to make their churches, whether in the restoration of ancient ones or in the building of new, in some measure more worthy of their sacred purpose.

THE LATE HERCULES BRABAZON.

THE death last week at Oaklands, near Battle, of Mr. Hercules Brabazon Brabazon has been almost unnoticed in the press of this country, yet, says the *Sussex Daily News*, he was one of the very few present-day artists to whom the word genius might be applied. Born eighty-four years ago, for many of them closely associated with Sussex, he worked solely for his own pleasure till 1892, when Mr. Sargent induced him to show at the Goupil Gallery some of those little dreams of colour which, by the hundred, had been hidden away in his portfolios, whence they were brought out occasionally to rejoice the spirit of a friend. Blake says that "he who kisses the joy as it flies, lives in eternity's sunrise." That was Brabazon's way. He was not of those who "bends to himself a joy" to the destruction of its winged life. A profound sincerity, an ardour for the inner kingdom of the beautiful, animated by light, was his constant quest. Nothing so puny as self-consciousness, self-distrust, quenched that ardour.

To the catalogue of the exhibition of 1892 Mr. Sargent prefixed a telling introductory note. It is one of the best, most understanding of appreciations, so that no excuse is needed for quoting it:—

The water-colour drawings of Mr. Brabazon are now being shown for the first time at the instance of the artists of his acquaintance, who have overborne his prerogative as an amateur of withholding them from general view. Their rare merit will be their best advocate, and any introduction of them by a member of the artistic profession is a formality of significance only to their author, to whom exhibiting is an adventure, for distinctions are lost when work attains a certain level. The exclusive following of a personal inspiration is admitted to be the condition of high professional work, and with talent such as Mr. Brabazon's this condition has led to a degree of excellence only to be found in work unhampered by adverse influences or victorious over them.

The gift of colour, together with an exquisite sensitiveness to impressions of nature, has here been the constant incentive, and the immunity from "picture" making has gone far to keep perception delicate and execution convincing. Each sketch is a new delight of harmony, and the harmonies are innumerable and unexpected, taken from nature, or, rather, imposed by her. Immediate sensations flower again in Mr. Brabazon's drawings with a swiftness that makes one for the first time forget that there has been a medium. Those who look principally for suggestions of nature in pictures will be grateful, and if they try to analyse will wonder whether the word lyrical, borrowed from other arts, would help to define a certain kind of temperament.

A French artist, on seeing some of these drawings, gave in a word another secret of their charm and of their power, "C'est la fin d'une vie." Only after years of the contemplation of nature can the process of selection become so sure an instinct; and a handling so spontaneous and so freed from the commonplaces of expression is final mastery, the result of long artistic training.

Since these words were written connoisseurs of catholic taste have recognised in Mr. Brabazon's spontaneities the breathings of genius. In a sense he remained an amateur to the end; in a sense he was the artist's artist. Had he gone through the ordinary art curriculum his sense of structural design might have been surer, but it is by no means improbable that the winged impulsiveness, the clarity of his vision — supreme possessions — would have suffered somewhat. He wooed nature, by virtue of an inward alchemy which was his by instinct; he recreated, showed forth in new glory and mystery and romance many of her secrets. Colour was his language, and he was sovereign over utterances innumerable. For one thing, wonder dwelt at the heart of all Brabazon's best drawings; and wonder is as a bird that, unsolicited, comes to nest in the heart of each who preserves even a little of the childlike spirit.

Mr. Brabazon has often been called the Father of the New English Art Club, at whose exhibitions his water-colour notes were a constant source of pleasure. But he was at once the father and the youngest son. At the convivial gatherings of the Club he was ever blithe and gay; it is not easy to forget the sweet temper with which in old age he confronted life. As recently as last autumn there were brought together in Regent Street over 100 of his water-colours and pastels, the final harvest from those portfolios to which nothing had been added for a decade or more. There was Venice seen across the floating dream of a Turner, Venice, "after Guardi," a masterpiece of interpretation, "The Church of the Jesuits," unfaltering of statement, and fugitive effects of atmosphere, eternal truths of sunlight and shadow, whether in violet-misted mountains or azure skies, or in welcome and intimate comments on De Hooch, Rembrandt, Rubens, Velasquez, Lawrence. He was far too big a man to be merely imitative. The one thing impossible to him was to be other than himself. How many can say that? His language of colour thrills with life; it was joy to him, so to speak. A final comment. The Chantrey trustees have so far overlooked the art of Mr. Brabazon. Let them hasten to retrieve their error.

The Old Grammar School at Coventry is to be repaired and enlarged. The building was originally the hospital of St. John the Baptist, founded by Edmund, Archdeacon of Coventry, in the reign of Henry II., and at the dissolution of monasteries granted to John Hale, a condition of such grant being that he should found "one ffree scole within the said cittie of Coventre."

AMERICAN PRACTICE.

It is stated in the *Bulletin of the American Institute of Architects* that at a meeting of the board of directors the secretary was directed to send a letter to Mr. A. B. Trowbridge, in answer to a question as to whether it is proper for an architect to have an interest in building materials or contracts, stating that it is the opinion of the board that the Code of the Boston Society of Architects, articles No. 2 and 3, was the proper rule for guidance, and is as follows:—

Section 2. "A member having any ownership in any building material, device or invention, proposed to be used on work for which he is architect, should inform his employer of the fact of such ownership."

Section 3. "No member shall be a party to a building contract except as 'owner.'"

A letter was read in reference to modern albums of architecture by manufacturers, and illustrating such works with cuts of buildings of prominent architects. On motion it was carried that the chairman appoint a special committee to consider the subject of publishing architects' illustrations as advertisement, and also to consider cognate matters and report at the next meeting of the new board.

The following members have expressed their intention of attending the seventh International Congress of Architects. The expressed intention does not obligate anyone to attend:—Frank Miles Day, Cass Gilbert, W. B. Mundie, Charles F. McKim, Wm. S. Eames, Frank C. Baldwin and wife, Wm. M. Ellicott, Theo. C. Link and wife, Hugh Roberts, C. A. Wallingford, Josias Pennington, Geo. B. Post, Wm. C. Noland, Percy Ash and wife, Albert Kelsey, Alcide Chausse, Wm. B. Ittner, Robert C. Dixon, jun., John M. Carrere, Charles H. Rutan, C. Howard Walker, Geo. O. Totten, jun., August Wackerbarth, John D. Thomas, Chas. D. Maginnis, Isaac E. Ditmars, W. C. Whitney, J. Foster Warner, C. Edward Vosbury and E. W. Donn, jun. It is found after a careful canvass of the subject that it will be impossible to obtain reduced rates on any of the lines of steamers, and it will be necessary for each party to make his own arrangements with the steamship companies.

The following action has been taken by the Philadelphia Chapter in the matter of architects advertising:—Whereas there exists some indefiniteness and misunderstanding on the part of certain members of the Philadelphia Chapter of the American Institute of Architects with respect to the attitude of this Chapter towards the practice of advertising by its members, therefore be it resolved that this Chapter considers it injurious to its interests, and also to the interests of the architectural profession, for any member's name to appear in any paper, magazine or other publication otherwise than as a news item or as part of the general reading matter, of which advertising is not an intentional part in so far as the member, whether individually or as one of a firm, is concerned; that this Chapter considers it likewise injurious for any member to issue, print or publish, either as an individual or as one of a firm, any paper, pamphlet, book or other publication for which advertisements are solicited; and that this Chapter further considers the above-described acts as breaches of professional ethics.

At a meeting of the Illinois Chapter it was agreed to appoint a committee to take whatever steps might seem necessary to secure a law to permit the construction of entrances, cornices and other features of architectural adornment to project over the street line.

The subject was brought to the attention of the Chapter by Henry W. Hill. Mr. Hill recalled a decision of the Supreme Court prohibiting the occupancy of any part of the street or the projection of buildings upon the public thoroughfares. He thought it a mistake. He first proposed to appoint a committee to call upon Commissioner of Public Works Patterson and "enlighten" him as to the necessity of permitting ornamental features of buildings to extend over the sidewalk, but to this there was some protest because it would mean the violation of the recently adopted building ordinances. The members were in favour, however, of taking the matter before the Legislature to see if anything could be taken in that direction. In the Chapter the motion to appoint a committee to call upon the Commissioner of Public Works did not receive a seconder.

President Pond thought it unwise to do anything which might have a tendency to interfere with the enforcement of the law. L. E. Stanhope, deputy commissioner of buildings, said that the Department of Buildings had nothing to do with the question of the projection of buildings over the street line; that was a matter entirely within the scope of the Department of Public Works, he said.

It was stated in the general conversation which ensued that the Department of Public Works is issuing notices to the effect that these projections will not be permitted, but their construction is proceeding at various places in the city, but no specific instances were cited.

S. A. Treat stated that in the construction of the building at Michigan Avenue and Thirty-first Street fifteen or twenty years ago, the park commissioners were so rigid in regard to the maintenance of the street line that it was necessary to set a building back 18 inches to permit of certain ornamental architectural features which had been proposed by the architect to be embodied in its construction.

Mr. Hill moved that a committee of three be appointed to take legal advice and to enjoin the Commissioner of Public Works from interfering with the construction of entrance features projecting over the street.

George Beaumont expressed the opinion that it was unwise for the Chapter to take up the matter of interfering with the building laws, as recently passed by the City Council. He stated that owners, architects and builders had been given opportunity to protest against any provision of which they did not approve, and they had in this, as in many other instances, not availed themselves of the privilege, and it would certainly be unbecoming in the architects to undertake any measures which had a tendency to invalidate the building laws. He cited instances in which he had found it necessary to erect buildings back from the lot line in order to attain certain ornamental features. He was opposed to the change in law on principle, and did not see why property owners had any right to trespass on the rights of others.

The following announcement has been sent out by the Colorado Chapter to the architects of Colorado, Wyoming and New Mexico :—

Sociability is one of the principal objects of this organisation. On this line alone many pleasures as well as benefits should accrue to architects visiting Denver for pleasure or business, as also for Denver architects visiting other points. Acquaintances and friends are not so apt to get in each other's way, and are glad to help one another in business matters. We promise for the Denver members of the Chapter, to the Denver visitor, the use of our offices, our desks, phones, circulars of information and our most gracious services in every way. As professional men we know what more this membership means, but we are also aware of the environments and conditions which often thwart our best intentions, and firmly believe that upon the foundation of sociability and true friendship will in due time be reared a symmetrical structure embodying all the true lines of professional ethics and the high standard that belongs to architecture in every sense.

FIRE-RESISTING SCENERY.

The London County Council on March 1, 1904, included in the rules to be observed by licensees of premises licensed by the Council for public entertainments one requiring that "all scenery, wings, sky borders, cloths, draperies, gauze cloths, floral decorations, properties, hangings, curtains, &c., whether on the stage, in the auditorium, or in other parts of the premises, must be rendered and maintained non-inflammable." The Lord Chamberlain subsequently issued a similar rule with regard to the theatres in his jurisdiction. Before March 1904 it had only been necessary to render fire-resisting the hangings, curtains and draperies used in places of public entertainment, and not the scenery. It was hardly to be expected, in view of the considerable trouble and expense which it occasions theatre managers, that the rule made in March 1904 would at once meet with general acceptance, and until recently the reports by the chief officer of the fire-brigade of non-compliance with the rule were very numerous, more especially in the case of scenery brought into theatres by touring companies. The practice which is generally adopted for complying with the rule is to dip the lighter fabrics in a solution made from one or more of the chemical salts technically known as "antipyrenes" (ammonium phosphate, borax, alum, &c.), and as regards the scenery generally, to brush over the back of the canvas and woodwork with this solution.

The method adopted by the Council's officers for testing whether the scenery is fire-resisting is to obtain samples, selected at random in the presence of the manager, from the scenery to be tested, and to subject these samples at the headquarters of the fire-brigade to the flame from a plumber's portable lamp, the temperature of the flame being about 1,000 deg. Fahr. If when subjected to this test the samples do not support flame the scenery is deemed to possess the requisite degree of resistance to fire. Complaints have been made from time to time to the Council and the Lord Chamberlain that the superficial treatment of the scenery with fire-resisting solution is of little if any use in making it fire-resisting, and it has been urged that only scenery formed of wood and canvas which has been thoroughly impregnated with fire-resisting solution should be allowed to be used in theatres and music-halls.

The theatres and music-halls committee have accordingly given careful consideration to the question whether it is necessary and practicable to insist upon the adoption of some more thorough method than is generally employed for rendering scenery fire-resisting, and to assist them in arriving at a decision on this point they arranged for the chief officer of the fire-brigade to submit in their presence to the usual test imposed by him samples of materials which had been treated with fire-resisting solution and similar portions of materials which had not been so treated. In all thirty-three tests were made, the articles tested consisting of scenery cloth, profile boards, wooden scenery battens, artificial flowers and palms, hay, straw, gauze cloths, muslin, chintz cloth, flannelette and linen.

As a result of the tests, the committee are of opinion that the degree of fire-resistance obtained by dipping light fabrics in the fire-resisting solutions usually employed is quite satisfactory, and that as regards the scenery generally the degree of safety that is attained by brushing over the back of the canvas and the woodwork with fire-resisting solution is all that can reasonably be required. It is therefore, in their opinion, unnecessary to insist that the woodwork and canvas of scenery which has been so treated should be thoroughly impregnated with fire-resisting solution.

It appeared probable, however, that as regards the canvas and woodwork of scenery which has only been treated superficially, the efficacy of the treatment might be impaired when the scenery was in constant use, but the committee are not in a position to form an opinion as to the extent of the deterioration likely to take place, or, consequently, as to the frequency with which scenery in constant use should be retreated. They have therefore instructed the chief officer of the fire-brigade to collect evidence on this point and to report thereon in six months' time.

THE SAN FRANCISCO EARTHQUAKE.

The following communication from Professor Frank Soulé, dean of the College of Civil Engineering, University of California, appears in the *Engineering Record* :—

The recent great earthquake, and the only one of the series that caused any serious injury, began on the morning of April 18 at 5h. 13m. 38s., standard time of the 120th meridian. The duration of the severe part of the "quake" was 38 seconds, but the vibrations of the earth's crust continued for over a minute, and were followed at short intervals by many others of slight intensity. There were fourteen such recorded during the remainder of April 18, and more than forty have occurred up to the present time (April 30) ; none severe.

The motion in the first great shock was at first from east to west and finally from south-east to north-west, the displacement as measured by seismographs being about ¾ inch. The duplex instrument of the University of California gives a graphical representation, showing a large, somewhat tortuous, closed curve made during the vibrations, and indicates that the motions were from all directions at different moments, like those of the surface of a cake of jelly resting upon a plate, when the latter is severely struck. The severity of the first shock is estimated at nine in the Rossi-Forel scale by our seismic authorities.

The writer has visited and inspected some twenty-five of the principal large buildings and structures of the most modern type, as well as many others, and has ascertained the effects of the earthquake shock upon them previous to their attack by fire. In every case where the structure was of Class A, steel frame, with first-class foundations, either upon good ground "in natural place" (as with the Claus Spreckels or Call Building, the James Flood Building, &c.) no appreciable injury was done, and but for the conflagration they would now be in service. The same can be said of that class of superstructures resting upon excellent foundations of piles driven through made ground to a solid substratum, as exemplified by the new Merchants'

Exchange, the Mills Building, the Kohl, formerly the Hayward, &c.

In the case of those of Class A, buildings founded on made soil, such as filled in sand, mud and the like, the walls have been cracked and injured to a considerable extent, requiring in some instances large expense for repairs. A notable example is the United States Post Office at the corner of Seventh and Mission streets. This is a handsome, well-designed and strongly-built structure of the new type, three storeys in height. Had it been raised upon an excellent foundation it would undoubtedly have passed through the "temblor" unharmed; but unfortunately for it, the site is a sand lot, across one corner of which formerly ran a branch of Mission Creek, underlaid by a deposit of mud and silt. The lot had long been filled into grade with sand, and the Government agents, after much adverse criticism of the subsoil, endeavoured to unify and strengthen the "bed of foundation" by the liberal use of steel-concrete piers. The granite walls on every side of the Post Office are badly cracked from the third storey under the roof to the foundations; while the walls, the marble veneer, the partitions and the fireproofing on the interior are badly shattered and thrown to the floor in great quantities. The sidewalks around the building are separated from it and each other, and upon the Mission Street side have in places sunk 3 feet below grade, indicating very plainly a defective support.

The total damage to this building is estimated at 100,000 dols., and is to be attributed to the defective foundation, the filled-in area, but not to the weakness of the superstructure; that in itself is strong and excellent.

The water front and sea wall of San Francisco lie far outside the old shore line of the harbour, and the intervening mud-flats and silt bottom between were at an early day in the history of the city filled in with rubbish and sand. Upon this material, sometimes using long piling, and at other times platforms and grillages of timber, a large number of the commercial and wholesale houses were erected. This "made ground" was greatly disturbed and rolled into waves by the earthquake, but wherever the piling under the brick or stone walls had been heavy, deep and well done there resulted little injury to the masonry.

The Union Ferry depôt at the foot of Market Street is a modern steel-frame building of great length and width, and has a very high tower at its middle on the landward side. The front and ends of the depôt and the lower two-thirds of the tower are faced with Colusa sandstone. The building is founded upon concrete arches and piers, resting upon timber grillages supported by wooden piles driven 80 feet into the silt, blue clay and yellow clay successively of the bay's bottom. There are seventy large piers with sixty piles each that carry the heaviest landward part of the depôt, thirty small piers with nine piles each under the light bay side, and 250 piles carrying the tower, which partly rests upon the seawall running beneath it. The foundation was regarded as heavy, substantial and sufficient even in this bay mud. The high tower was badly shaken and lost a part of its stone veneer, which falling upon the roof of the depôt, broke through it to the second storey or floor beneath it, and caused the greatest part of the damage to the building. The tower will probably be taken down and reconstructed. The south-eastern end of the wall of the depôt, the part first struck by the earthquake, was also cracked and in part thrown down, and some cracks appear in other portions of the structure, but no serious damage appears; the floors are apparently level and the depôt is in constant daily use.

This case of a heavy structure resting entirely upon concrete piers some 30 feet above their bases on piles in mud, and not reaching hard, solid bottom, seems a crucial test for the modern steel-frame structure, and indicates to the writer that the engineer and architect can build sufficiently strongly to defy any earthquake that is likely to come.

Other brick or stone buildings erected upon some of this filled-in area, but having weak foundations or thin walls were badly cracked, and in some instances completely wrecked.

The Palace Hotel, an immense structure of brick, seven storeys in height, built nearly thirty years ago, and therefore not in the latest type, endured successfully the severe shock, as it had many a lighter one in past years, but was gutted by the fire. It was founded in a deep excavation in wet sand "in place," and was constructed with very thick walls of brick. It had been regarded as both earthquake and fireproof.

The San Francisco sea wall was built in sections 1,000 feet or so in length. It was constructed, with the exception of the length under the Union Ferry, by excavating the soft mud of the bay's bottom to a depth of 34 feet and thus forming a long, broad trough in the stiff mud beneath, then filling this up to the desired level above high water with heavy random stone. Between this wall and the main land sand was dumped in to the same level. The wharves, with timber and latterly concrete or metal piling, have been established along its exterior face. This sea wall has been shaken by the "quake," and at some points has been changed in level, but apparently has suffered no serious injury.

Substantially built structures of wood resting upon good foundations in either natural or made ground have suffered no injury save as to chimneys and plastering, but flimsily-built houses on poor foundations have collapsed or been completely wrecked. The most remarkable instance of this kind is that of the Valencia Hotel, at the upper end of that street. It stood upon a deep filling of mud and sand. During the shake it dropped suddenly many feet into the earth, one side much deeper than the other, and doubled together like a jack-knife, the upper storeys lying upon the lower. The guests in the higher rooms escaped into the street, but twenty-five in the lower were buried alive.

As the result of study of the effects of this earthquake, the writer has the firm conviction that (1) the modern Class A steel-framed structure having a proper foundation will endure without appreciable injury any earthquake that is likely to occur. (2) That a strongly built wooden house on a good foundation bed will suffer little in any earthquake. (3) That wrought-iron shutters on the exterior of the windows of the great Class A steel-framed buildings in San Francisco, if operated by engineers and power, would have prevented the destruction by fire of a large number of her best designed and practically earthquake proof structures.

MERTHYR TYDFIL.

Among the principal towns Merthyr has the unenviable notoriety of having the highest death-rate. In 1905 the death-rate in England and Wales was lower than that of any other year on record, but in Merthyr it was higher than in the previous two years. The condition of the district has been made the subject of a report by Dr. J. Spencer Low to the Local Government Board. The following part relating to the houses occupied by the greater number of the inhabitants is enough to explain the position of Merthyr for defective sanitation:—

There are large areas in Merthyr and Dowlais which contain buildings unfit for human habitation by reason of their structural condition, their disposition in regard to other dwellings—as, for example, in crowded courts or because of their darkness, dampness, or other defects. Houses are to be seen (*a*) back-to-back, (*b*) back-to-earth, (*c*) without back doors and back windows—in all these types through ventilation is entirely absent—and (*d*) "under and over" houses, *i.e.* cellar dwellings with other buildings over them. Indeed, in the older portions of Dowlais and Merthyr well nigh every conceivable fault in housing is abundantly represented.

In a number of instances houses not fit for habitation have, at the instigation of the sanitary authority, been remodelled. For instance, back-to-back houses have been converted into "through" houses by combining the front and back house, or an "under and over" house has been furnished with an internal staircase giving access from the upper or "over" house to the cellar, the intention being that the latter should be no longer separately occupied. However, subletting of the cellar or of the back rooms of houses formerly back-to-back has resulted, in a number of instances, in the practical re-establishment of the previously existing unwholesome conditions.

A local type of insanitary dwelling has arisen by the erection of "slopes," *i.e.* of houses in juxtaposition with the backs of previously existing houses, so that by occlusion of back doors and back windows of the original house back-to-back houses are newly established. In part this has been due to a desire to make use of every available foot of building land in populous parts of the district.

Some instances of insanitary areas are here quoted as types of what can be readily seen throughout Merthyr and Dowlais.

Rosser Court, Glebeland.—Houses badly lighted, no through ventilation, roofs leaking, walls damp, upstairs rooms too low, no slop drainage, yard badly paved. Cross

Sunnybank Street and Llwyfen Street.—Houses back-to-back, others back-to-earth. Waterloo Street.—Houses with no back doors or back windows. Toop's Court.—Houses with no through ventilation, yard in filthy state. Moses Court.—Houses and yard in filthy state; some cellar dwellings. Company Row contains the most insanitary houses visited (with perhaps the exception of some in Well Street, Dowlais). These houses are build on sloping ground, and consist of three rooms, two above the ground level in front of the house (one on each storey), with a cellar beneath them. At the back of each dwelling all three rooms are above the ground level. Formerly this row consisted of "under and over" houses, but what was formerly a separate cellar dwelling has been made part of the "over" house by the construction of an interior staircase. By periodic and frequent inspections the subletting of these cellars is greatly discouraged, but in one instance I found the cellar sublet to an old woman at a rental of 1*s.* a week. The rental of the three rooms is commonly 1*l.* 2*s.* a month. Even in such houses the occupier endeavours to accommodate lodgers; as for instance by subdividing the kitchen so as to form from it a room just big enough to contain a bed serving as a place of rest for the husband—a night-worker—by day, and for the wife and family by night. In a particular instance where this had occurred the husband was found in bed, his wife and family occupying the rest of the kitchen and the cellar, while the remaining upstairs room of the house gave accommodation to a lodger's wife, who was ill in bed, having been on the day of my visit notified to be suffering from enteric fever.

The filthy condition of many houses and of many people inhabiting Company Row and Crystal Palace Court, which is in the same neighbourhood, is difficult to realise unless actually seen. It would seem that, however proper from a structural point of view may be the houses in which people of the class in question live, such persons tend in a very short time by their habits and mode of life to degrade their habitations. Their utter disregard for personal cleanliness, the squalor and overcrowding of their homes, their filthy habits, together with their lack of appreciation of light and fresh air, interact in a way to produce a slum whatever the type of dwellings they might happen to inhabit.

It is noteworthy that most of the dirtiest places that I saw in Merthyr and Dowlais were courts and back streets which are rarely traversed by the more respectable inhabitants of the district, public opinion being accordingly a matter which the inhabitants of such areas are not called on to consider. Like conditions obtain at Clive Street, Merthyr Vale, which is a row of "under and over" houses. The "over" houses here, which open on to a main street and are kept in a superior manner, are in marked contrast with the "under" houses which open on to a back road.

Apparently people of the class inhabiting Company Row, Crystal Palace Court, parts of Well Street and similar quarters are not likely to keep their persons, premises and surroundings clean except by being continuously harassed into so doing.

An interesting fact appeared while making house-to-house visits in Dowlais. After visiting a number of dirty houses I now and again came suddenly upon houses, not materially different in structure from the others, which were very well kept. Similarly, it became often obvious that the centre of the street divided a sanitary from an insanitary area. The cause of these contrasts would seem to be a difference in ownership; certain owners insist on their houses being kept clean, tenants on default being ejected. On account of the scarcity of houses in the district at a rental so low as 20*s.* per month landlords can pick and choose their tenants.

There can be no question that some houses in Merthyr are kept clean because the landlord insists upon it, and, conversely, that some are allowed to be dirty because the landlord does not take trouble in the matter. Well Street, Dowlais, and its neighbourhood, afford some good examples of the above state of affairs.

As I have said, few suitable houses are available at Merthyr for persons obtaining less than a certain weekly wage. Rents have a wide range in the district, and the quality of the accommodation obtainable for any given sum seems to vary in an extraordinary manner. A great want seems to be a three or four-roomed house rented at 15*s.* to 20*s.* per month. Owing to demand in this sense far exceeding the supply, persons have to take houses at a higher rental, and only by subletting rooms do they manage to live at a net rent which they can afford. It is a most difficult problem to provide suitable housing accommodation for such people. The packing of two families in one small house is not likely to be conducive to cleanliness or morality, and in the event of infectious disease attacking young children in one family the other family can hardly hope to escape infection.

The overcrowding which is common in the district, much enhanced by lack of suitable accommodation for single men, is often difficult to detect owing to the large number of men and boys engaged on night-work. A midnight visit reveals, of course, only the day workers, and a day visit on the following morning fails to discover overcrowding owing to the temporary dispersion of the night-workers to other houses for the time being. It commonly happens that some beds are almost never cold, the night-workers getting up but shortly before the day-workers retire to rest. As will easily be understood, promiscuous association of the sexes is inevitable in view of the circumstances under which many persons live in Merthyr.

In an attempt at dealing with the housing problem, the District Council, in addition to closing a number of houses permanently or until satisfactorily altered, have erected 100 houses which were occupied in 1903 and the early months of 1904. These houses contain in each instance two living rooms and a pantry upon the ground floor and three bedrooms upstairs, with water-closet and coal-house in the yard; each house has also a strip of garden. The rental of these houses is fixed at present at 22*s.* 6*d.* per month, which appears to be more than a large number of persons, at present housed in insanitary property, can afford to pay. A considerable portion of the population cannot afford 5*s.* 7½*d.* per week for the rent charged for the Council's houses. No difficulty has been experienced in filling the Council's houses, but subletting of rooms has been practised, with overcrowding as the almost inevitable result.

It deserves notice that accommodation as good as, and in some cases better than, that afforded by the Council's houses is to be had at less rent (when there are vacancies) in certain dwellings erected about the same time in the same neighbourhood by building societies. Houses in Bronheulog and Brynglas Streets, many of which are inhabited by persons paying rents of 20*s.* and 21*s.* per month, are instances.

As regards the Council's houses. When due allowance is made for the water charges (now reduced) and for non-recurring expenditure, I am given to understand that a house at a rental of 22*s.* 6*d.* per month returns a small profit. It must be borne in mind, however, that no charge is made for rent collection, which is effected weekly by the Council's rate collectors, who receive no additional remuneration for this service; whereas a house agent, I am informed, would require 5 per cent. on the rent for a weekly and 2½ per cent. for a monthly rent collection. With the present class of tenants in the Council's houses a weekly collection of rent is requisite. As the matter is now managed, the class of tenant housed by the District Council must continuously improve by selection, and by the elimination of bad payers, with consequent reduction of loss by empty houses and arrears of rent. From this point of view, most of the capital cost of the Council's houses may be recovered in thirty years, the period fixed for repayment of the bulk of the loan in regard of them.*

The conversion of insanitary property into houses fit for human habitation has been hampered by the fact that in a number of cases long leases are nearly at an end and the lessees are consequently unable to spend money profitably on such property. This applies to some of the houses owned by the coal companies; in one case I am informed that at present the company is losing money on its old houses, and that when the leases expire in a few years' time it will not seek to have them renewed. If this be so, sanitary houses may become even scarcer than they are at the present time.

Much cottage property is owned by speculators, so I am informed, who have bought at a low figure, and who are very unwilling to incur any expenditure whatever upon repairs or improvements. Locally it is not anticipated that such owners would spend much money on converting their insanitary property into something better.

There can be no question as to the chief want of Merthyr in the present. It is more abundant and better dwellings available for the working-class population. Were this want satisfied—whether by the District Council, the coal and iron companies or by private enterprise—the following advantages would doubtless in due course accrue :—

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* 15,000*l.* was borrowed in the first instance to be repaid in thirty years. In the case of 2,047*l.* required to complete the work, the Board sanctioned the loan of this amount to be repaid in sixty years.

(1) Disappearance of existing insanitary areas. (2) A reduced general death-rate. (3) A reduced infantile mortality rate. (4) A reduced rate of incidence and death from infectious diseases. (5) Increase of comfort and of enjoyment of life to a large section of the Merthyr population.

But as matters stand, though every house in Merthyr and Dowlais were to-day in a condition suitable for human habitation, there would still be most urgent need for many additional houses to cope with the prevalent overcrowding. Moreover, the position of affairs is more likely to get worse than to improve, in view of extensions now taking place at the Dowlais Ironworks. It is said that employment for an additional 1,000 men is likely to be afforded. It must be remembered in this connection that coal and iron companies own much house property in Merthyr and Dowlais, and that some of it is unfit for human habitation. If houses in this category are closed by the Council at any other than a very slow rate, the overcrowding evil must needs be intensified. I am informed, however, that in a number of instances houses have been rebuilt or otherwise improved at the Council's request.

It is possible that some of the difficulties of the housing problem might be met, and private enterprise perhaps at the same time encouraged, if the Town Council were to agree that they would take steps with a view to close houses in certain definable unhealthy areas at certain fixed dates, thus affording stimulus to provision beforehand of dwellings for the working classes to replace those to be closed by the Council as unfit for human habitation.

Similarly, it is worthy of consideration whether encouragement might not be given to the erection or provision of lodging-houses of a type somewhat superior to that of the average common lodging-house, in a way to relieve the congestion of young single-men lodgers in the houses of the working classes. As a further reason for such procedure, there is the circumstance that single men in this district are to a great extent employed in occupations rendering frequent and extensive ablutions desirable. These can with difficulty be decently obtained in lodgings in working-men's houses.

THE OLD ATHENS AND THE NEW.

An interesting article by the Rev. James Burns, M.A., appears in the *Liverpool Courier*. He writes :—Leaning over the parapet of the Acropolis and looking down its precipitous sides one sees clustering around its base a heap of ruins, and beyond the streets of a modern city. This is the old Athens and the new—the old shrunken and decrepit, the new aggressively magnificent. It is this clash of the pathetic past with the noisy present which in Athens is the traveller's most startling experience. The Byzantine Athens, the Frankish Athens, the Turkish Athens have all disappeared. There is a gap in its architecture of 2,500 years, and walking under the shadow of the Acropolis one is now with Phidias in the Golden Age and the next in this aggressive twentieth century. It startles even the most prosaic to see tennis played near by the temple of Olympian Zeus and bicycle races run in the ancient Stadium.

It comes almost with a shock, too, to find Athens a city of boulevards and squares, of finely-built streets and fashionable shops. It is not what one has "come out for to see," and those things which elsewhere one would notice with admiration, here one regards almost with resentment. For modern Athens is painfully modern. Some seventy or eighty years ago it had not 200 houses; now it has a population of 150,000. It would be accounted a beautiful city if one had the patience to look at it, but the beauty one seeks for in Athens lies in its ruins, its broken pillars and empty fanes, its mighty and immortal past, and to wander amongst its tombs one seeks silence and peace.

Most people find travelling a long process of disillusionment. Things are so seldom as we have imagined them, and first impressions of scenes which our imagination has conjured up jar us by their unlikeness. Then there follows a process of reconstruction, and out of the ruins a better, because truer, impression is formed. Travelling in Greece is no exception to this rule. Cobden long ago found the waters of the Ilyssus—of which he had dreamed so long—dammed up by a washerwoman. Neither Marathon nor Salamis suggest anything heroic when at last the eye lights upon them. The land is rocky and barren, and one wonders what right poets and writers had to make so much out of so little. Then slowly there dawns upon the mind the overwhelming greatness of these men who made so much out of so little, who made Athens to thinkers and poets and artists what Jerusalem is to Christians and Mecca to the followers of Mahomet.

To many the most interesting and sacred spot in Athens is the Areopagus, or Mars Hill, from which Paul preached to the Athenians. Mars Hill is totally unlike what ninety-and-nine out of every hundred people would conceive it to be. It is not at all suited for a number of people to congregate ; the summit is not grassy, nor is it flat ; it is bare, rocky and precipitous. When one stands upon its summit the process of disillusionment is immediate ; it is only gradually that the scene becomes reconstructed in the mind, and that the event takes on a new and thousandfold impressiveness. From no other spot in the world could one with Paul's training see so much that was enthralling. He could not have been human if, knowing what he did, and standing where he stood, his eye did not search for those places which even now cannot be reviewed without emotion. For there almost at his feet were the blue waves of the Mediterranean rolling up the Bay of Ægeria and lapping the shores of Salamis. Up that Gulf Xerxes, with his thousand ships, had sailed, their pennons fluttering in the breeze, their countless oars champing into foam the restless waves ; and there on the high hill sat Xerxes on his silver throne, tearing his hair in an agony of rage as, entering the narrow straits, his ships were charged by the adventurous Greeks and thrown into confusion, until butting against each other in the narrow channel—

> The sea could scarce be seen,
> Strewn, as it was, with wrecks and carcases.

Nor less could Paul have been moved if, instead of letting his eye rest on the "wide-wayed sea," he turned inland. Beneath him rolled a broad and level plain shut in on one side by the hills of Hymettus, "where ever hum the countless bees," and on the other by Pentelicus, glistening with its treasures of white marble, and lying between them the way to Marathon. Along that ancient way ran Phidippides bearing the news to terror-stricken Athens, "Rejoice, we conquer," and, falling dead, made his name immortal.

The pride of modern Greeks in their illustrious ancestry is natural, and the philo-Hellenism which leads wealthy men to give generously to beautify their city receives the admiration of all. In the presence of this it is churlish to ask the question whether the Greeks of old and of to-day bear any relationship at all. It is like discussing the old question as to the boat of Theseus, which was repaired so often that men began to doubt whether it could be properly said that there was any boat of Theseus left. Such a question could never be discussed in Athens, where an attempt to translate the Scriptures into modern Greek would raise a riot. And perhaps the criticism that the weaknesses which the Athenians exhibited in Paul's day still remain is not without its truth. It has been said that if an Athenian had only one penny left he would spend half of it in getting his boots brushed, the other half in buying a newspaper. Politics is still the absorbing topic of conversation, and in politics the Athenians of to-day show the same fickleness as of old. In thirteen months there have fallen three Ministries, and in the next thirteen there will probably fall other three. And upon all this change, this coming and going of Ministries and of men, the grey old Acropolis looks down, with its broken pillars and pathetic ruins, more eloquent than all the speech of men of a past which can never be renewed, and of a glory which can neither be forgotten nor revived.

Mr. H. Craven, assistant to the town clerk of Sheffield, has been elected town clerk for York. Mr. Craven served his articles at Todmorden, and after holding positions at Dewsbury, Todmorden, Penrith and Rotherham, he went to Sheffield in 1900. He is thirty-eight years of age. The salary of his new position is 600*l.* a year.

The Water Committee of the Birmingham City Council have made an exhaustive estimate of the cost of completing the Elan Valley works which have been undertaken. In that estimate they have included the works at Hagley for the protection of the Great Western Railway, also an additional filtered water pool at Franckley, and a liberal allowance for certain adjuncts in the Elan Valley, and the committee are able to inform the Council that they can see their way to complete the first instalment of the scheme, including all these items, at a sum not exceeding the 1902 estimate of 5,884,918*l.*

Correspondence

The Cremona Society.

Sir,—That portion of the musical public which is interested in the subject of Cremona violins has been for a long time, if not always, under certain impressions (conveyed by tradition or assertions made by various writers or connoisseurs) that some of the best known masters of the craft in Cremona confined themselves to the making of one kind of instrument, the violin. Among these may be mentioned the name of Joseph Guarnerius, known as "Del Gesu," from his use of the sacred monogram "I. H. S." on some of the very few genuine tickets extant. It has long been asserted that he never made other than violins, his work in this line being that on which his great renown was built. Nevertheless, some few connoisseurs have doubted whether such a master of his art did no other work than make violins, or whether on starting business on his own account he produced examples of the three or four kinds of stringed instruments, viz. the violin, viola, violoncello and contrabass.

From time to time rumours have been abroad that some one "on the fiddle hunt" had come across a viola by the master, but these have been followed by a denial on the part of judges who have inspected the "find" that the most necessary evidence of his actual handiwork was apparent. Usually, the nearest that could be said was that the specimen, although after the style of Joseph Guarnerius, was by a different hand and lacked the essential evidence of his handiwork. With regard to the larger instruments, the violoncello and the contrabass, the hunt was looked upon as hopeless, for it was admitted that even if any were extant, their discernment would be difficult owing to the difference of size and likelihood of variation in design and manipulation from his renowned violins. The question of probability of Joseph Guarnerius having made violas or 'cellos has really been kept alive by the frequent interrogation of amateurs and others, who, having become acquainted with the violins produced by the great Cremonese, desired a 'cello or viola purchased, they rightly expecting that the wonderful qualities common to all his fiddle-work would be equally present in the larger productions.

Those interested in this matter will be pleased to know that an opportunity has at last arrived of settling the question in connection with at least one of the members of the violin family—a violoncello—and that a veritable example of Joseph Guarnerius's work, complete, has come to light in the freshest condition, and may be both seen and heard at a special meeting of the Cremona Society on Wednesday evening, May 30, when Mr. Horace Petherick, the president (whose work, "Joseph Guarnerius and his Master," is now in the Press), will read a paper on this undoubted Joseph Guarnerius violoncello.

Those who desire to be present should apply to me for tickets, which will be allotted so far as space permits.—Yours faithfully,

Albert H. Elliott,
Hon. Secretary.

7 Argyll Gallery, Argyll Street, W.:
May 21, 1906.

GENERAL.

The Empress Eugénie has given instructions that the furniture and other objects which formerly belonged to Malmaison are to be returned to that palace.

The Duke of Bedford was on Monday elected a trustee of the British Museum.

Messrs. Dixon & Potter have obtained the first prize in the competition for the Free Library, Bangor, and have been instructed to prepare working drawings and specification. Mr. V. Hodge, of Teddington, was awarded the second prize. There were twenty competitors.

A Collection of drawings illustrative of pre-Reformation painting in England has been arranged in the room next to the Raphael Cartoon Gallery at the Victoria and Albert Museum. They are mainly copies of wall-paintings in churches.

Mr. Sturge, London County Councillor, desires that the Council should take steps to obtain a coat of arms, "with a view to commemorating worthily its work in connection with public improvements, such as the construction of new streets and bridges, the restoration of ancient buildings and the like."

Mr. Max Clarke, F.R.I.B.A., has entered into partnership with Mr. Matt Garbutt, F.R.I.B.A., A.M.I.C.E., at present architect to the Metropolitan Railway Company, and the firm will be carried on as from June 1 as Max Clarke & Garbutt at 4 Queen Square, Bloomsbury, London, W.C.

The Town Council of Stirling on Monday decided to offer premiums amounting to 100*l.* for plans of new municipal buildings which can be erected at a cost of 12,000*l.* on a part of the site of the Corn Exchange.

The Annual General Meeting of the Surveyors' Institution, to receive the report of the Council and the announcement of the result of the election of officers for the ensuing year, will be held in the lecture hall on Monday, May 28, at 3 o'clock. The prizes awarded to successful candidates in connection with the recent preliminary and professional examinations will be presented by the President.

The Kent Archæological Society have fixed July 17, 18 and 19 for their visit to Canterbury. The Society will be received on the first day by Dean Wace, who will hold a reception in honour of their visit, and in the evening the mayor (Mr. F. Bennett-Goldney, F.S.A.) will entertain the members at a conversazione.

The Sheffield Society of Architects and Surveyors held their annual meeting on the 17th inst. The report of the Council showed a membership of 122, the highest number in the Society's record. A ballot was taken and the following gentlemen were elected officers:—President, E. Holmes; vice-president, W. C. Fenton; treasurer, F. Fowler; secretary, J. R. Wigfull.

The Corporation of Glasgow have purchased for the art galleries at Kelvingrove the full-length portrait of Mr. R. B. Cunninghame Graham by Mr. John Lavery, R.S.A., which is in the exhibition of the Royal Glasgow Institute of the Fine Arts in Sauchiehall Street.

Mr. Gavin Gemmell Dick, formerly resident engineer of the Queensland Government, London, and of 1 Victoria Street, Westminster, civil engineer, who died on May 23, 1905, left personal estate in the United Kingdom valued at 20,188*l.* 2*s.* 3*d.*

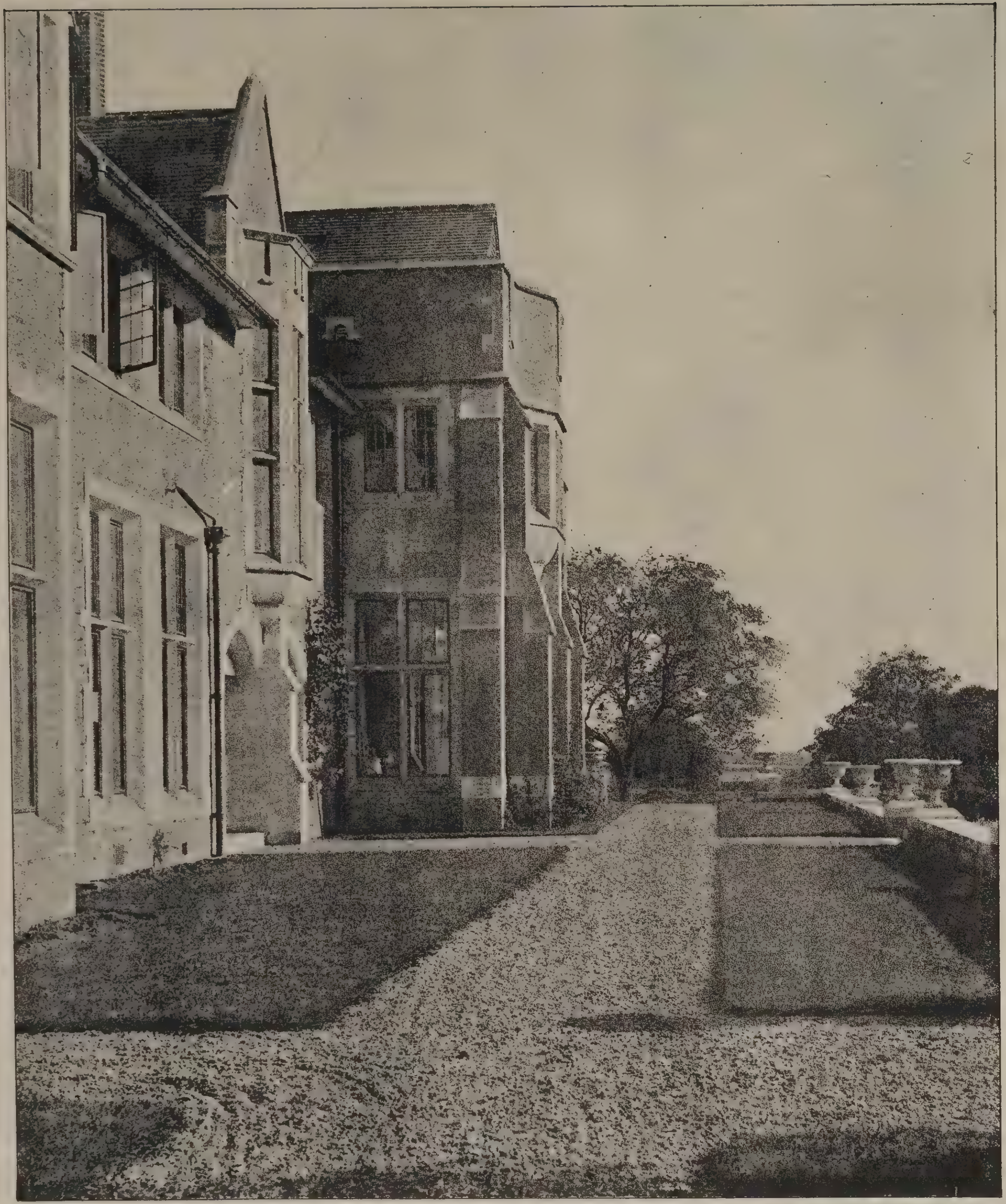
The Sewerage Committee of the Leeds Corporation have decided to recommend the City Council to adopt a new sewage scheme that will cost about 1,096,000*l.* Ground has been purchased near Templenewsam. The committee also decided to recommend the construction of an intercepting sewer at a cost of 163,000*l.*

Mr. Nigel Bond appeals as secretary of the National Trust for contributions towards 500*l.* still necessary to complete the purchase of Barrington Court, a Tudor mansion in Somerset. An anonymous donor some time ago gave 10,000*l.* for the purpose.

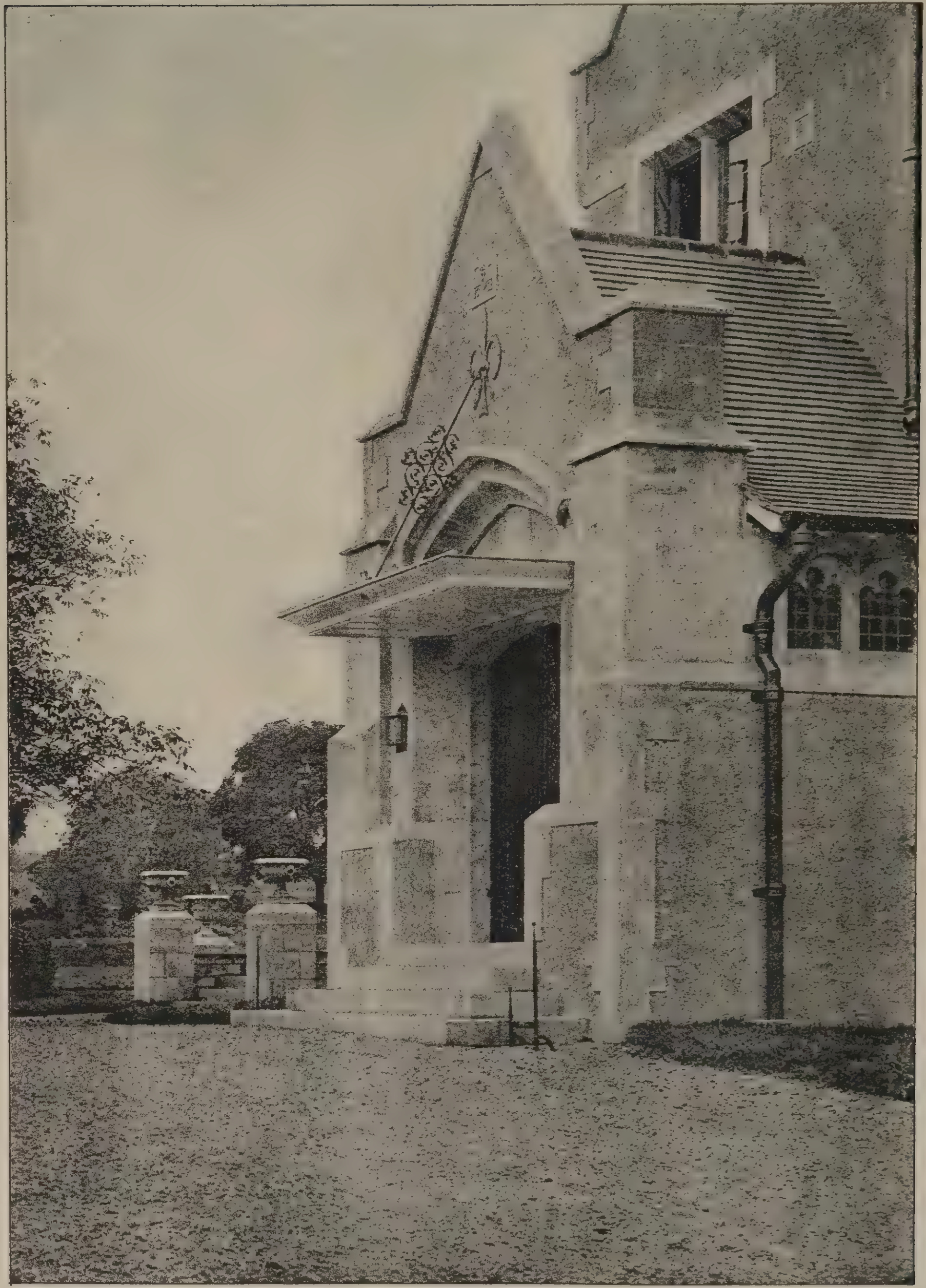
The Cambusnethan School Board, at a special meeting held at Wishaw, considered competitive plans by local architects of a new school for Newmains, to accommodate 900 scholars. A two-storey building was agreed upon, and a committee was appointed to fix upon a neutral architect of standing to adjudicate upon the four competitive plans, the estimated cost of the schools they represent being from 8,839*l.* to 9,545*l.*

Major Anstruther-Gray asked the First Commissioner of Works in the House of Commons on the 17th inst. whether his attention had been called to the state of the ceiling, painted by Rubens, in the Banqueting House, Whitehall, and whether he could see his way to have it cleaned. Mr. Harcourt in reply said:—"I have received very satisfactory reports from experts as to the general condition of the painted ceiling, but it undoubtedly wants cleaning and a renewal of the varnish, which I hope to be able to do at no distant date, though it may not be this year." It is about seventy years since it was cleaned.

The Birmingham Municipal School of Art invite candidates for the twenty-five free admissions to evening classes open to candidates under sixteen years of age, and awarded on the results of an examination in elementary drawing from objects; thirty-four free admissions (including the ten "William Middlemore" and four "John Henry Chamberlain" free admissions) to the evening classes at the Central school open to students for not less than one session at the Central or branch schools; five exhibitions at 4*l.* each, without free admission, and tenable at the Central school or at the Vittoria Street school for jewellers and silversmiths; five exhibitions at 6*l.* each, and five exhibitions of 10*l.* each, without free admission, and tenable in morning and afternoon classes at the Central school.



VIEW DOWN TERRACE.



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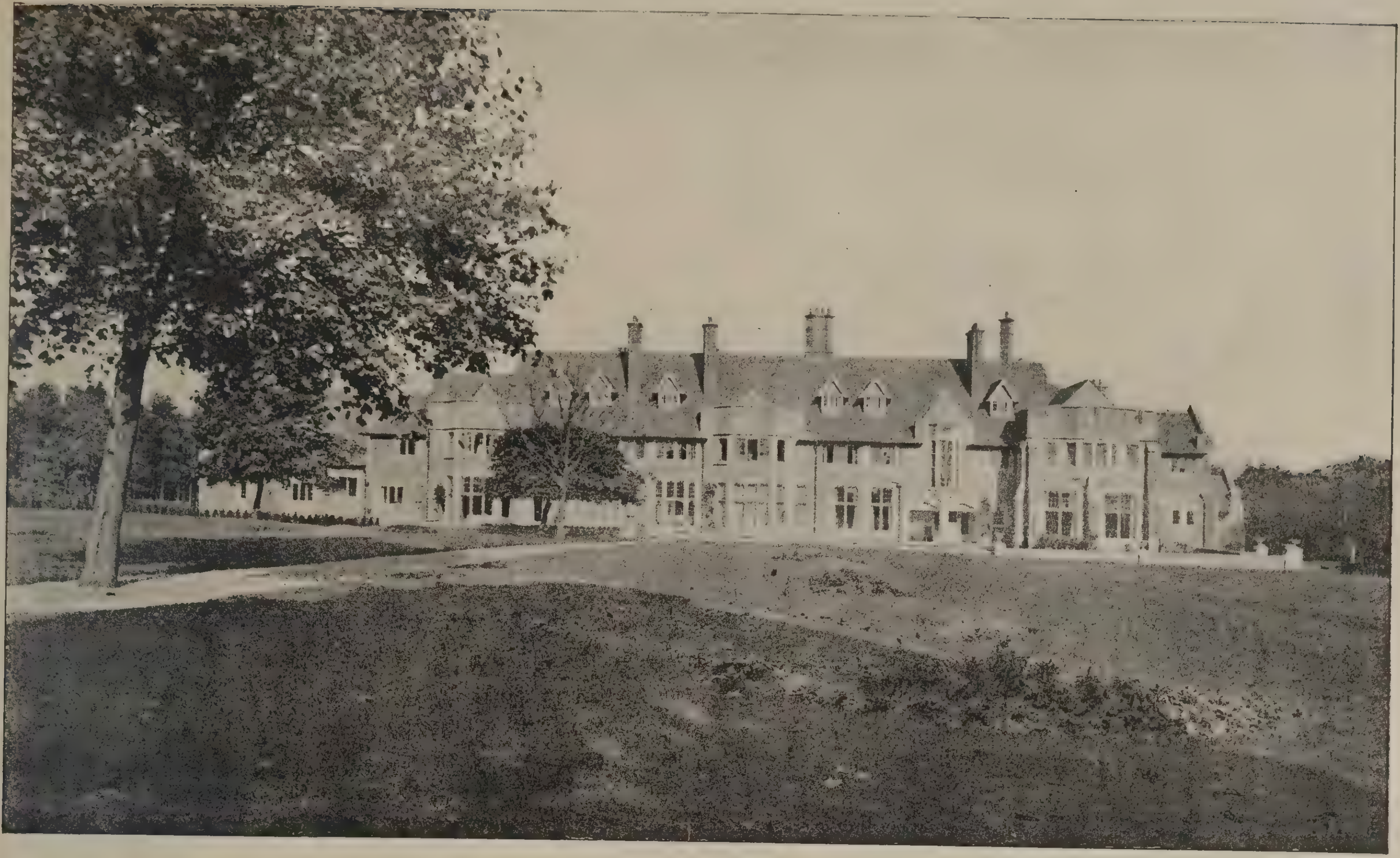
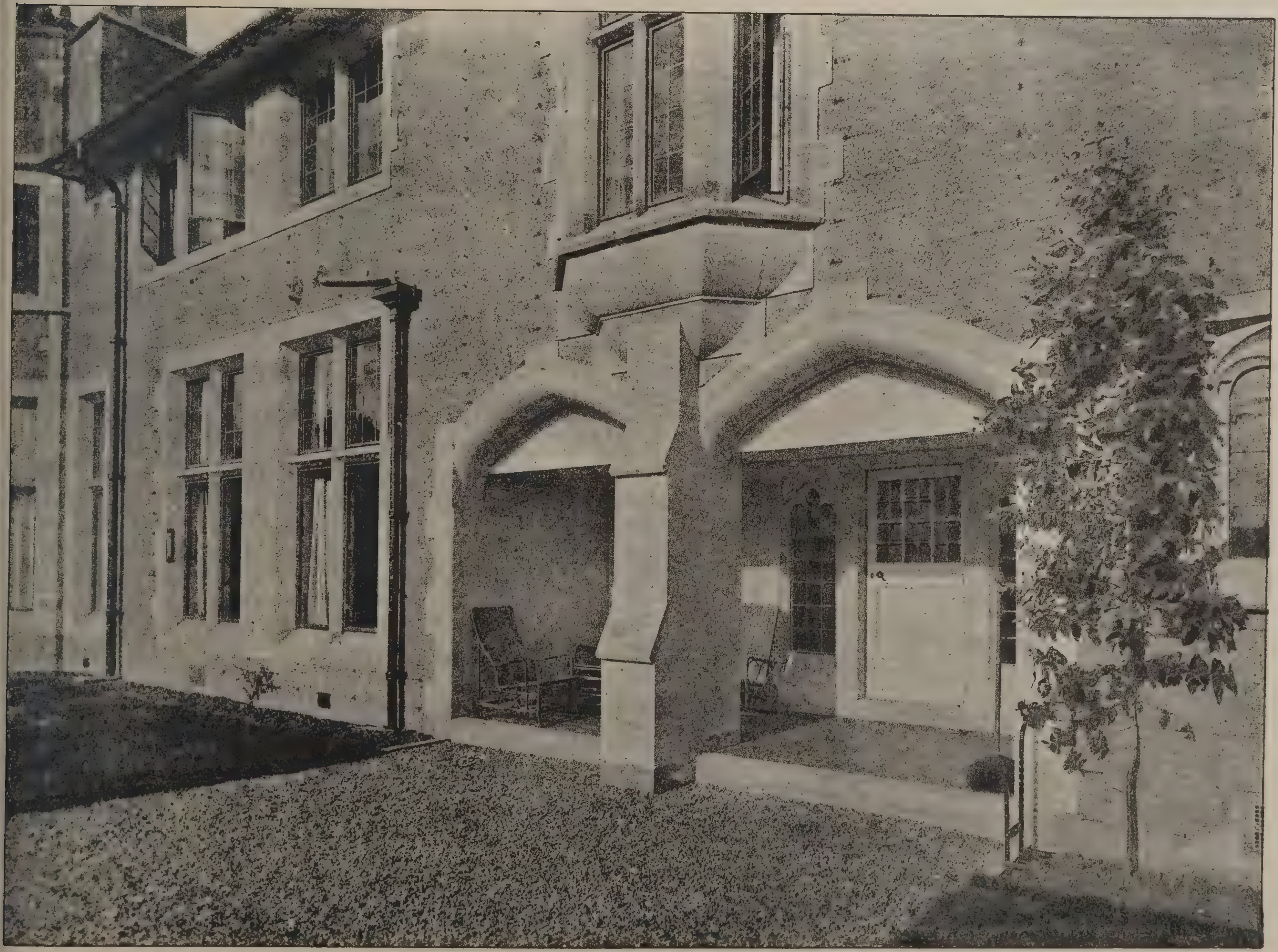
ENTRANCE PORCH.

A. YORKSHIRE GRANGE.

FRANK A. TUGWELL, Architect.



GARDEN FRONT.



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A YORKSHIRE GRANGE.

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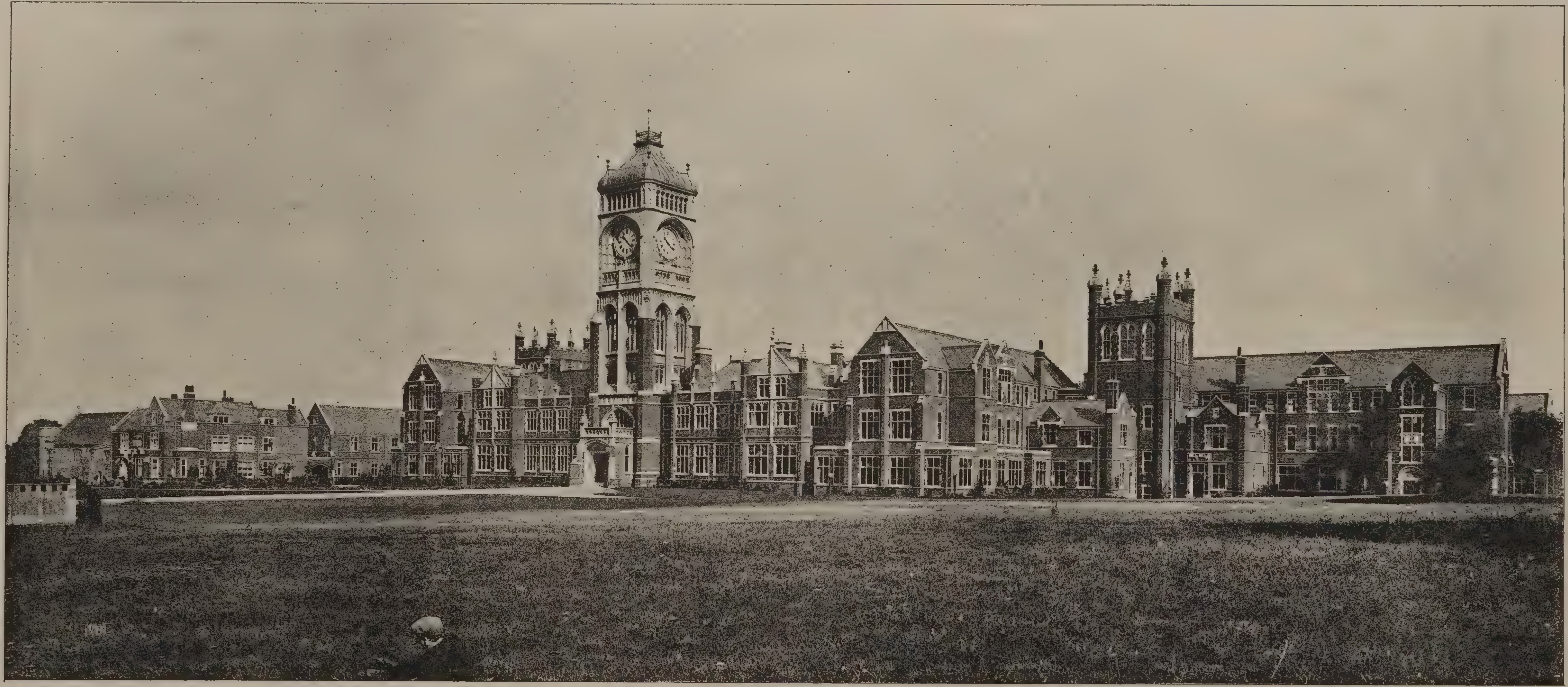
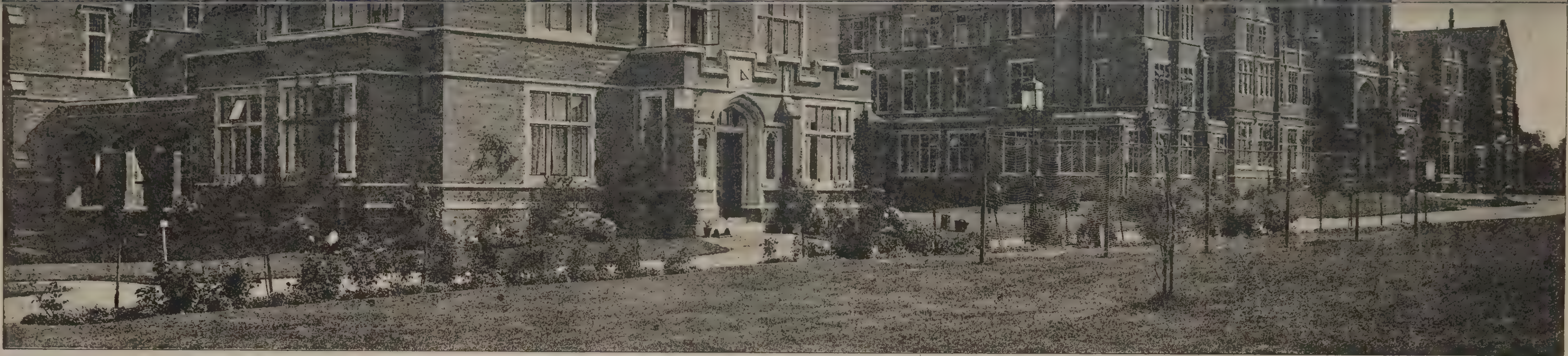
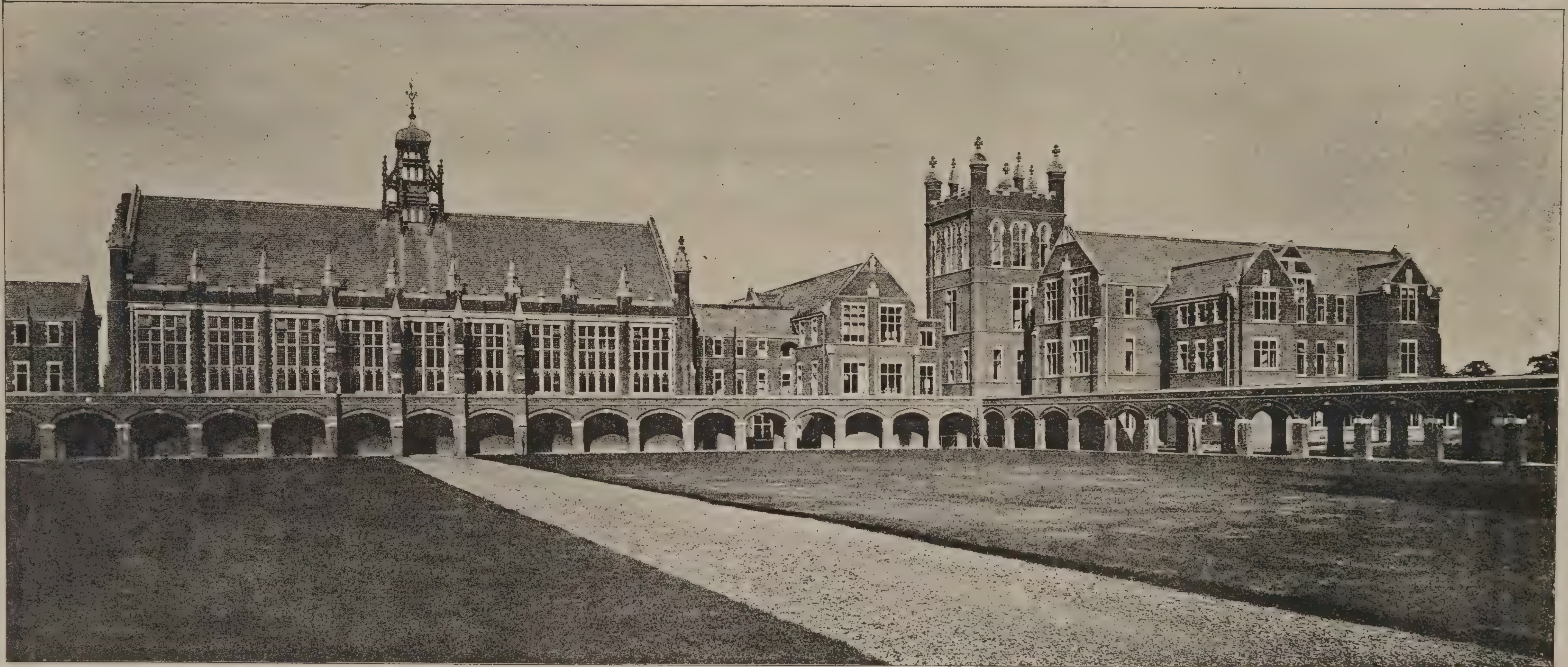


GENERAL VIEW.





DINING HALL AND HOUSE.

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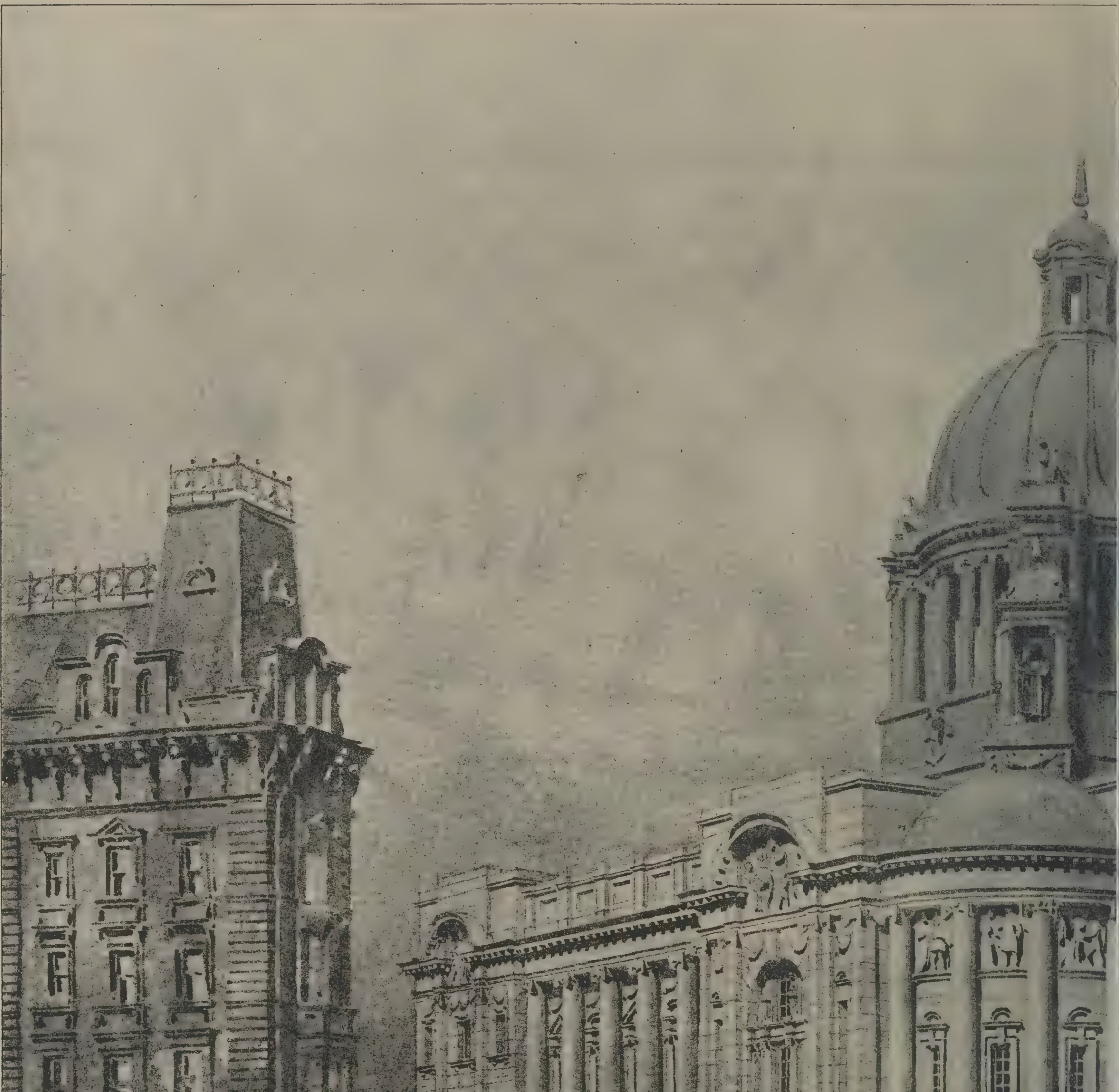
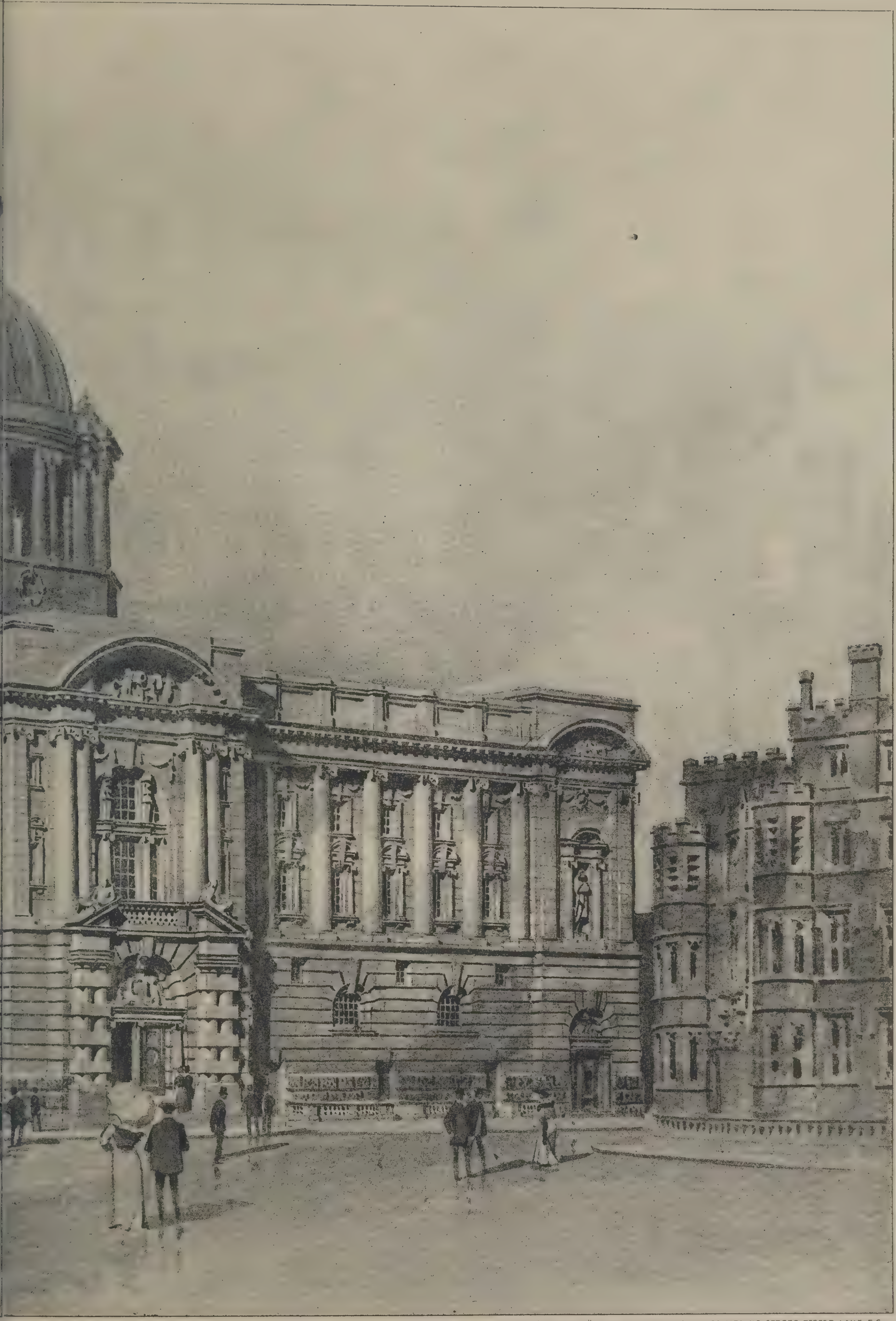
MASONIC INSTITUTION FOR BOYS, BUSHEY, HERTS.

Messrs. GORDON & GUNTON, Architects.



Competition Design for Wesley

By Messrs.



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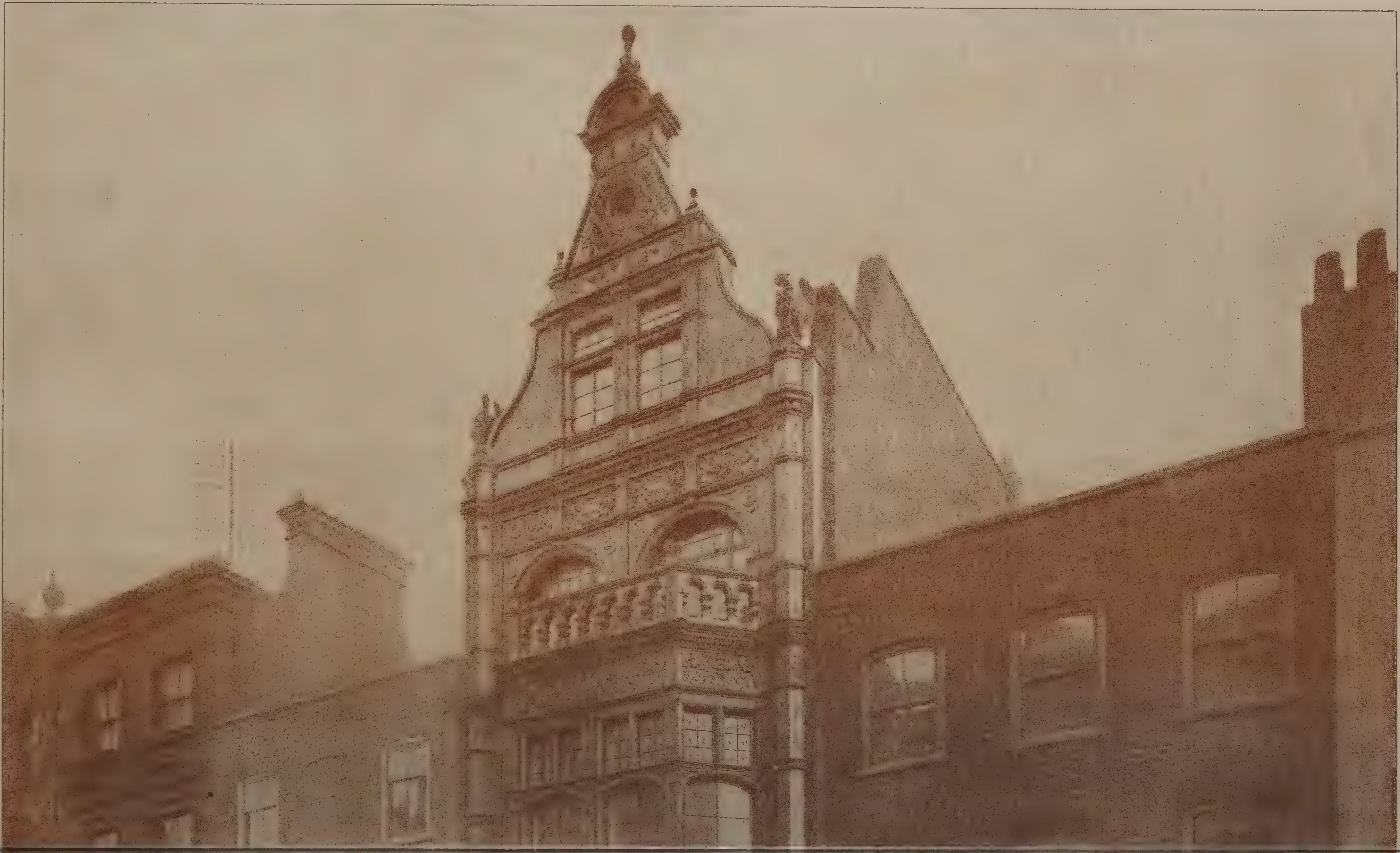
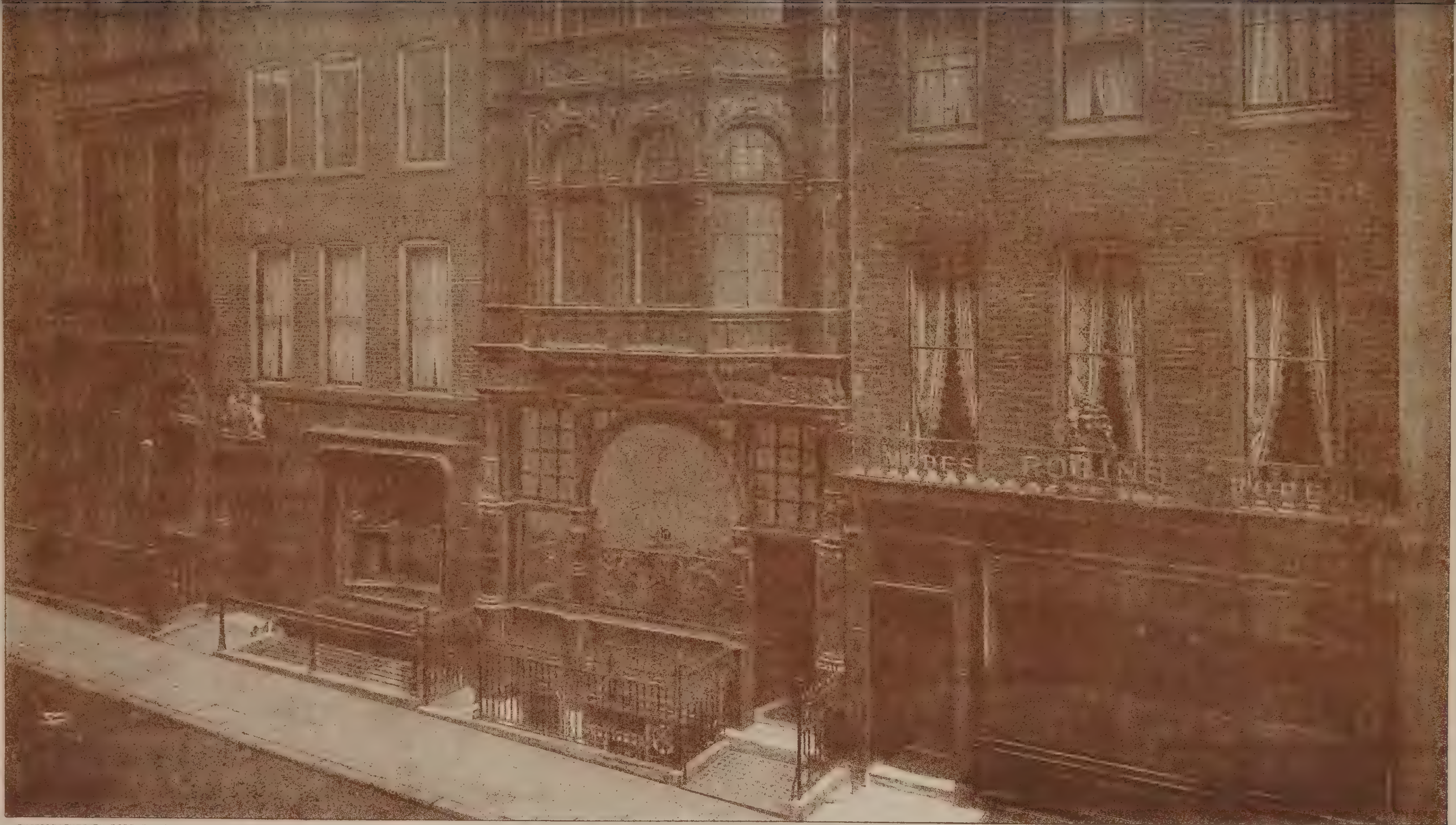
CONFERENCE HALL, WESTMINSTER.

NTZ & FORD.

The Architect, May 25th 1906.





PHOTOGRAPHED BY BEDFORD LEMERE & Co. 147, STRAND, W.C.

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47 MADDOX STREET, W.

WALTER R. WILLIAMS, A.R.I.B.A., Architect.

The Architect.

THE WEEK.

The Avenue Theatre appears to have rather an ominous position. As a building it does not exist, and therefore no profit could be derived from theatrical performances which would be sufficient to pay the rent. But the property is subject to leases and sub-leases, and they, of course, represent heavy rents. In the lease of 1894 it was provided that if the premises were closed by order of a superior authority, or if they were destroyed by fire or damaged by fire to such an extent that they could not be used for performances, the payment of the rent was to be suspended. It was not anticipated at the time that the theatre would be rendered dangerous by the fall of a part of the adjoining Charing Cross station. The County Council issued a dangerous structure order directing that external walls and internal walls as described should be taken down. Two actions arose for the recovery of the rent under the leases, on the ground that as there was no fire or order by a superior authority, the payment of rent was not suspended. Mr. Justice Lawrance gave judgment in one action for 1,012*l.* 10*s.* and costs, and in the other for 750*l.* and costs. The defendants appealed, and the case came before the Supreme Court on Tuesday. The judgments of the Lords Justices suggest the doubts which arise in relation to such buildings. Although the appeals were allowed, it was only in an uncertain way. Lord Justice Vaughan Williams questioned whether the theatre by shoring or some other appliances might not have been put into a condition to receive people. Lord Justice Stirling thought the theatre was not closed by a superior authority but by the collapse of the station wall. Lord Justice Moulton was more assured, for he considered that superior authority of any kind was sufficient, and he did not think that fire alone was to be the cause of the damage which would prevent the payment of the rent. It is possible that the cases may be brought before the House of Lords.

There was some opposition at the meeting of the London County Council on Tuesday when it was proposed that the construction of a portion of the middle level sewer from Old Ford to Queen's Road, Shoreditch, and of a branch sewer to the high-level sewer, should be carried out by the works committee without the intervention of a contractor. The total outlay is estimated at 140,100*l.* Work of this kind may appear to be simpler than the erection of buildings to cost a similar sum. But plant will be required of a kind which the works committee do not, we believe, possess at present. It is of little use to argue that economy would be more likely to be secured by entrusting the work to one of the numerous contractors in London who have had special experience with such operations. The desire of the works committee or their willingness must be gratified at all costs. The extension of the main drainage system, of which the sewer in question is to be a part, is estimated to cost 3,772,550*l.* Originally the estimated cost was 3,000,000*l.* The large increase of three-quarters of a million suggests the contingencies which arise in dealing with sewers, and a still larger sum may eventually have to be paid.

It is provided by Section 150 of the Public Health Act, 1875, that an urban authority may give notice to persons occupying premises abutting on a road requiring them to make up such road, provided that it is not a highway repairable by the inhabitants at large, and may, in the event of non-compliance with the notice, execute the works and recover from the persons in default the expenses so named. It has been decided, in the case of the Hornsey Corporation *v.* Birkbeck Freehold Land Society, that an urban authority can only exercise these powers over roads within the area of their own district. In this case the roadway and the footpath on the south side of the road were within the district of the Hornsey Corporation, but the footpath on the north side of the road was within the district of Friern Barnet. It was held therefore that the Hornsey Corporation could not recover the expenses of making up the road from the persons occupying premises on the north side of the road. As Lord Alverstone, C.J., said, local authorities may be given powers to be exercised outside their districts, but it must clearly appear from the words of the Act of Parliament that such powers were intended to be given. In this case there was evidently no intention to confer such powers. In fact, the provisions which relate to the recovery of the expenses from the frontagers and the provisions which relate to the deposit of plans with the authority doing the work, favour the view that the local authority are dealing with local matters within their own district. If it were otherwise we should expect to find some provisions giving the other local authority some say in these matters. No doubt in such cases of roads within the districts of two local authorities the two authorities will be able to come to an agreement as to the performance of such work, and this appears to be obviously the proper course to pursue.

There has been more than the usual amount of talking about art in Ireland of late years. If we may judge by the report of the Art Union of Ireland, all the eloquence does not appear to have created abnormal outlay on works of art. Seven years ago the subscriptions amounted to 1,087*l.* This year the total has been reduced to 312*l.* 12*s.* 6*d.*, or less than a third. A still smaller sum was available for the purchase of pictures, viz. 180*l.*, the remainder being expended on administration. Somebody must profit by the Art Union, but few artists are in the number. In fact, only ten prizes could be distributed, one being of the value of 40*l.* The Irish Art Union may be contrasted with the Glasgow. This year the Scotsmen were able to distribute 2,260*l.* in prizes, one being of the value of 200*l.*, one of 100*l.*, five of 50*l.*, ten of 25*l.*, twenty-six of 20*l.*, twenty-six of 15*l.*, and thirty-nine of 10*l.* The difference between the two serves to explain why Glasgow should have a school of art which has a wide reputation, while in Ireland they are still endeavouring to discover the kind of models which would be serviceable to painters.

A Bill has been introduced in the American House of Representatives for the purpose of authorising the creation of a national advisory board on civic art. The five members are to be selected by the Senate and appointed by the President. Whenever called on by the State, the House of Representatives, the President, or a Cabinet officer, they are to consider and report their opinion concerning the artistic merit of plans proposed by legislative or administrative act for public structures, monuments and fountains, for the placing of mural paintings in public structures, or for the opening, modification or embellishment of any public space belonging to the United States. Any Government officer who is entrusted with the execution of Government work will be able to request the advisory board to consider and report concerning the artistic merits of plans for public structures, and for the opening, modification or embellishment of any public space within the district of Columbia proposed by legislative or administrative act. At least two meetings are to be held by the board each year in Washington, and an annual report with suggestions and recommendations is to be prepared. The sphere of the advisory board's activity is limited at first. But the new board will temporarily serve instead of a Ministry of Fine Arts.

SPANISH ARCHITECTURE.

THE alliance with Spain which is the event of the week may be the means of inducing Englishmen to take greater interest in Spanish art, and especially Spanish architecture, than hitherto. The reputation of Velasquez has of late years exalted Spanish painting. But among the numerous Spanish architects there is not one who now stands on a similar level, although some men, like Herrera, Berruguete, Egos, Gomiel, etc., were in their time considered to be prodigies by their countrymen.

Spain to a great extent corresponds with England as respects architecture. It can show more Roman remains than are to be seen in our country, and the Romanesque is more suggestive of Byzantinm than Norman buildings. Spanish Gothic, like our own, is, however, an adaptation, and as much may be said of their Renaissance. The styles have been adapted to suit local circumstances. Spain has had, moreover, an advantage which we never possessed in England in coming under Moorish sway. But the style that we see in Granada and elsewhere is less pure than in Cairo and the East. In other words, there is not an essentially Spanish style.

Fergusson, who was one of those who believed that races rather than hybrids were the only creators, explained the puzzle of Spanish architecture by our ignorance of the origin of the people. It seemed to him extraordinary that with a soil and climate so favourable to architecture as in Spain the art should be only an exotic. But, as he says, "If we knew who the Spaniards were we might be able to explain these phenomena, but we know so little of the ethnography of Spain that at present this source of information is not available." The country was one which invited invaders. Phœnicians, Romans, Goths and Moors all found a place there. According to Fergusson, the Celtic element would have fused all those diverse elements into one. But it never prevailed in Spain. Yet, as we know from the recent republication of early Irish literature and poems, the Celts looked on themselves as emigrants from Spain, and there are traditions enough to show that for many years there was sympathy between Ireland and Iberia.

It must, however, be allowed that in the treatment of all the styles one peculiarity at least is visible. Stern and severe as the Spaniards were in character, they generally endeavoured to impart richness to architectural forms far beyond what might be considered native to them. They were profuse in ornament long before the Moors had arrived and set an example to them of avoiding plain surfaces. Even in secular buildings a similar peculiarity is seen. With all their pride the Spaniards allowed themselves to be subjected by governments and clergy to an extent which was unknown in other lands. But they found compensation for this by dwelling on the greatness of their families. Many of their residences were made to present the history of the owners through the aid of heraldry, and in that way there is a close alliance between the houses of the nobles and the churches. Indeed it would not be going too far to assert that something similar to the Plateresco or the Churriguersco at all times found favour among the Spaniards, although the architects who were supposed to have originated an excess of ornament lived in the Renaissance period. That kind of art found an almost unlimited field for its display in the retables of the churches as well as in the tabernacles and church plate. It is in our time difficult to decide whether it was the architect who designed the *instrumenta* or the goldsmith who designed the building. These treasures were tempting to invaders, for, as we know, one of Wellington's perplexities was the discovery of some means by which the French generals would have to yield the plate they had taken from the churches.

In England not much attention was given to Spanish architecture until Mr. Street published his book on the Gothic architecture of Spain. His woodcuts have the great advantage of being rendered by a man who was not disposed to sacrifice characteristics to pictorial effect. It was found to be remarkable that the periods corresponded in age more nearly with England than with France or Italy. As the style was only an adaptation, foreign writers claim the works of their own country as inspiring the Spanish architects. The French are very positive about the connection between French cathedrals and Spanish, while Flemish and German inquirers are no less sure that their respective countries furnished the models. But the Spaniards had no hesitation in richly ornamenting parts which in other places were left plain. And the work is so often over-laboured, it is difficult to recognise what the building would be if the ornamentist were allowed less scope.

It is remarkable that in the history of Moorish architecture in Spain we can trace a similar exuberance, as if the air of Spain was favourable to the unlimited production of ornament. The Moors were unable to obtain a hold of the country without much fighting. Indeed some writers have said that nearly 4,000 battles had to be fought while the Moors remained in Spain. If we take the remains at Cordova and Toledo as evidence it would appear that the invaders, like the early Christians, did not disdain to utilise the cut stone which they found in Roman temples. The Moors had then some respect for consistency, and having massive columns and arches they were sparing in their decoration. Indeed, greater value was placed on the Cufic lettering which formed inscriptions than on any geometrically adapted figures. But, as we see in the Alcazar and the Mosque at Seville, the form of the arch was changed. The walls were divided into panels which were filled with elaborate ornament, and it would be impossible to find any relation between the delicate columns and those which were wrought by Roman masons. The ornament, too, has a distinct character, and testifies that a definite system was employed. Lastly, we find in the Alhambra that construction seems to be subservient to the decoration. Vaulting, which was supposed to require the highest skill, became a series of infinitesimal vaults, and we think less of the dome than of the countless pendentives of which it is made up, and which from the colours and gilding become bewildering. We can discover by the aid of analysis that the involved ornament is in reality made up of simple elements, but the first impressions which we receive are almost enough to make us believe that the whole of the work was due to "jins" rather than to ordinary workmen. It was in Spain that Moorish art reached its utmost bounds, and it was in Granada we can realise that its decline was approaching. Indeed, the boasting which the dome and the windows and other parts express in the inscriptions are suggestive of the pride which must have a fall.

It would perhaps be unsatisfactory to compare Spain to a museum. But for some aspects of architecture there is no part of Europe to surpass it. If there are a few buildings in Italy in which Paganism and Christianity seem combined, in Spain Mohammedanism has had to labour for Christianity. Minarets serve for belfries to summon people to church services. But Rome and ancient mythology are also recalled, for is it not inscribed on one of the gates of Seville—

Hercules me edificó,
Julio César me cercó
De muros y torres altas,
El rey santo me ganó
Con Garci Perez de Vargas?

Traces of antiquity are to be found throughout Spain, not merely in ruins, but in the manners and customs of the people. For many a year Spain and England were enemies. But the circumstances of both countries have altered. At one time the traveller seemed to think that the poorest Spaniard took airs on himself, and was eager the Englishman should bow to the native superiority. That, however, may be considered as a mere exaggeration. Foreigners now find they can travel throughout Spain and enjoy its sights with only a limited amount of inconvenience. We may also be allowed to hope that with the advent of the young queen there will be social reforms which Englishmen in particular will be able to appreciate.

THAMES BRIDGES.

THE opening of the new Vauxhall Bridge on Saturday is a metropolitan improvement which for some years past became a necessity. The influence of railway termini on London and on London life was originally not foreseen, and was not provided for. But it has grown to be very real and exacting. From the multiplex Victoria terminus it is now possible to go quickly to the northern, eastern and western parts of the Metropolis, or, in other words, those parts may be said to be united with the provincial districts which are served by three at least of the railway systems. But it was more difficult to reach the southern part of London from Victoria. Vauxhall Bridge at no time of its existence was adapted to connect two great highways. It was an early example of bridge construction in cast-iron, and it now seems difficult to understand how in the early part of the nineteenth-century people were induced to expend their money on such an enterprise. Pimlico did not exist, Tothill Fields seemed to be a desert, and the river and its banks were suggestive of gloom. That the neighbourhood was selected for the erection of the dismal penitentiary at Millbank is evidence of the character of the region. Indeed, Vauxhall Bridge seemed better adapted for a "Bridge of Sighs" than Blackfriars Bridge, and it is surprising it was not the scene of more suicides. Dismal as was the structure it cost 175,432*l.* to erect, and the Metropolitan Board of Works had to pay 255,000*l.* for it. The bridge which was opened on Saturday cost, including the property which had to be acquired, about half a million sterling.

We need not say much about the style of the new bridge as an example of architecture. But everyone will agree that it is well adapted for traffic, and that it has the advantage of presenting a horizontal roadway 80 feet wide. The County Council originally contemplated a bridge with granite facings and a backing of concrete. That would bring the structure into a close relationship with the noblest bridges of all time. But there arose some legal quibbles which could not be got over, and the work has therefore to consist of five steel arches varying from 130 feet 6 inches to 149 feet 7 inches. The abutments are, however, of granite and also the lower part of the piers.

Vauxhall Bridge represents the modern principle in bridge construction, which is that such works should be regarded in the same way as public roads, and be owned and paid for out of local rates. This may now seem to be very obvious, but it was for a long period unrecognised, and nowhere is that fact more clearly demonstrated than in London. Bridges over streams in England might be erected at the expense of the people in the vicinity. But large works which presented any difficulty could only be accomplished under extraordinary conditions. The legend of St. Christopher suggests how old was the difficulty of conveying passengers from one side of a stream to another. Some of the monastic orders endeavoured to keep up the tradition, and went about begging for aid to build a bridge. Naturally they held the structure in their own hands and demanded tolls. The absence of legislation on the subject in England is evident when we find that it was not until 1531 that Henry VIII. was able to pass the Statute of Bridges. Four justices were to hear and determine the "annoyances" of bridges and highways, and were to charge such as should repair them by sending forth processes and setting pains at their discretion. In case of doubt about precincts the bridges were to be repaired by the county, riding, or corporation. The justices were to appoint collectors to levy the taxes, and also surveyors who were to render an account upon pain of imprisonment without bail. That was a general Act; those of an earlier date related to particular bridges.

The Statute of Bridges had no effect in London. London Bridge was in 1531 a great massive structure of timber, and about thirty years afterwards it was necessary to cut down the drawbridge and to shut the gates in order to prevent Wyatt and his followers from entering the City. It is well to remember that in those days a bridge might become a source of danger, and the citizens of London had reason to consider the Thames as a means of making the City inaccessible to enemies on one side. When Stowe wrote at the end of the sixteenth century, London Bridge was the only one which crossed the river and it continued so until the middle of the eighteenth century. He was rather proud of bridges, and he takes care to mention those which were to be seen within the City boundaries. There was Fleet Bridge, which was made or repaired by John Wels, the mayor in 1431, for "on the coping is engraven Wels embraced by angels." There were also Old Bourne Bridge, which was also of stone, Cow Bridge, with others over the Tavern Ditch and over the Walbrooke. He refers to several enactments and orders by kings concerning the cleaning of the Walbrooke and the repair of the bridges. But works of that kind would be considered now as mere culverts.

We must not judge Old London, or rather the Metropolis, as it was by what it is. London Bridge served for communication with Southwark. But on the south side of the river where now there are almost countless houses the land was vacant. Then we must remember the existence of a company of watermen whose regulations made transit comparatively easy. In the time of Queen Anne it is believed there were about 40,000 people who lived by boats. In 1734 there were nearly 6,000 wherries which were numbered and registered, in addition to those which were unregistered. The value of certain positions may be judged by the fact that the company received 13,650*l.* as compensation for the loss arising from the disuse of the Sunday ferry by the building of Blackfriars Bridge.

The watermen were not always civil, and they may have helped to convince people that bridges were indispensable. In 1735 and 1736 Acts were obtained for the construction of a bridge across the river at Westminster. Charles Labelye, a Swiss architect, who had been assistant to Hawkesmoor, obtained the commission. The first stone was laid in 1739. It had thirteen large arches and two small arches, all springing about 2 feet below low water. The length was 1,220 feet. Bridge building was a novelty to Londoners, and several drawings were made of the structure during its progress. Labelye was supposed to have devised very ingenious centres, and plates of them were at one time familiar in books on building; but some of the arches failed, though whether through the centring or the foundations cannot be decided. The bridge was assumed to be connected with Parliament and a part of the funds came from the Exchequer. The bridge, apart from its danger, was out of keeping with the new Houses of Parliament. A new design with flat Gothic arches was therefore prepared by Thomas Page, which was adopted after much opposition by engineers, and in 1862 the bridge, which had cost 400,000*l.*, was opened to the public.

Another eighteenth-century bridge was that of Blackfriars. It was the subject of a competition among the architects of the time. Nowadays handsome drawings would be supposed to have an influence on the decision. But John Gwynne, R.A., obtained the services of Dr. JOHNSON in order to demonstrate that semicircular arches were preferable to semielliptical arches, which ROBERT MYLNE adopted and which it was known the Corporation had admired. The bridge might now find favour, for the columns which were introduced over the piers had, it was said, the proportions not of columns, but of candles. MYLNE intended using the best Portland stone to be found in the quarries, which were under the direction of the Lords of the Treasury. But by some of the juggling which was then common in the Legislature, stone of a different kind had to be used, and it was not long before repairs were necessary.

A new London Bridge was commenced in March 1824. With the exception of 200,000*l.* contributed by the Government, the two millions which were expended were raised by the Corporation. It is, however, remarkable, as indicating the peculiar condition which prevailed in the Metropolis, that all the bridges constructed during a great many years were financial speculations. There was no Act existing which allowed any of the vestries or other authorities to erect a bridge. CANOVA, who could not praise Westminster Abbey, although "il y a quelques beaux idées," is said to have considered the Strand Bridge (which is now known as Waterloo Bridge) as alone worth a journey to London, but was probably not aware, if he made use of the expression, which is doubtful, that he was praising the work of a company who had expended nearly a million before they were able to receive a penny toll. The Metropolitan Board of Works were afterwards able to obtain it for about one-half of the original outlay. Vauxhall Bridge, as we have said, was a little earlier in date.

The Hammersmith Suspension Bridge was erected under special Acts, and was opened in 1827. It was designed by Mr. W. T. CLARKE, and was supposed to represent a new principle. The total outlay was 85,000*l.*, but 112,000*l.* had to be paid for it. As traffic had increased the bridge was inadequate, and the superstructure had therefore to be changed in 1887. The appearance of the bridge was not, however, improved. When the Putney Bridge was opened in 1729 Putney and Fulham were outside the metropolitan boundaries. The bridge was formed of timber, and though it might be picturesque in the eyes of Mr. WHISTLER and other artists, it was certainly not adapted for a busy river like the Thames, for the immense piers formed obstructions. A sum of 58,000*l.* had to be paid for it, and a new bridge of granite was substituted, but in a different position. This, however, is becoming inadequate for the unexpected traffic.

The Lambeth Bridge, which was erected in 1862, was certainly the ugliest to be seen across the river. It was designed by P. W. BARLOW, the designer of the roof of St. Pancras station and many other structures. He was esteemed as an authority on the strength of materials, but the present condition of the bridge is not favourable to his prescience with regard to the wear and tear of ironwork. The bridge is now under observation, and it will have to be rebuilt as soon as possible. It was reported to be a profitable bridge to the shareholders, but they accepted a less price for it than it had cost. The Albert Bridge at the end of Oakley Street, which unites Chelsea and Battersea, was designed by Mr. ORDISH, who used to assist the BARLOWS. It cost about 200,000*l.*, and was supposed to unite the advantages of the cantilever and suspension principles. In appearance it was graceful, as architectural assistance was sought for the towers. When it was purchased the Metropolitan Board of Works expended some money on alterations. But it is to be hoped that if further changes are necessary the character of the bridge will be respected. It would, perhaps, be offensive to the official mind to suggest that the Department of Woods and Forests could speculate on a bridge. But the Chelsea Bridge, which leads to Battersea Park, was from the first intended to be a toll bridge. Only on Sundays and holidays was the roadway free. It was, however, provided in the Acts that if in some remote age hereafter the principal and interest were repaid by the tolls the bridge would become public property. The Metropolitan Board of Works anticipated the future by paying 75,000*l.* The bridge has also been strengthened, and it deserves some praise, for it is one of the few modern bridges in which an effort was made to distinguish it from an ordinary railway bridge.

Although there are so many means of communication across the Thames, it is found that the claims of commerce are not satisfied by them. Subways have also been constructed, and it cannot be said they are superfluities. Projects arise from time to time for additional bridges. In one sense this is satisfactory, for it suggests that, in spite of much inconvenience and other difficulties which impede intercourse, London is not satisfied with the creation of separate boroughs or parishes, but insists on unity, at least in a business sense. Pessimists have lamented its growth, but innumerable causes co-operate to enlarge its area, and with that object more facilities for communication must be created.

THE INTERNATIONAL CONGRESS OF ARCHITECTS.

THE following are some extracts from the provisional programme of the Congress :—

Meeting Places of the Congress.

The headquarters of the Congress will be at Grafton Galleries, Grafton Street, W. The inaugural meeting will take place at the Guildhall, E.C. Meetings will be held both at the Grafton Galleries and the premises of the Royal Institute of British Architects, 9 Conduit Street, W., for the discussion of the subjects of the programme.

Opening Day.

The Grafton Galleries will be open at ten o'clock on the morning of Monday, July 16, when the President will hold an informal reception. Badges, tickets for visits, &c., cards of invitation, will be obtainable at the Congress Bureau, Grafton Galleries. At 11.30 there will be a meeting of the permanent international committee. At three o'clock the inaugural meeting of the Congress will take place at the Guildhall, E.C., kindly placed at the disposal of the Congress by the Corporation of the City of London.

Receptions, &c.

The Royal Academy of Fine Arts will entertain the Congress at a soirée at Burlington House. The Right Hon. the Lord Mayor of London will entertain the Congress at a conversazione at the Mansion House on the evening of Tuesday, July 17 (limited to 1,000 invitations). The Royal Institute of British Architects will entertain the Congress at a garden fête at the Royal Botanic Society's gardens on the evening of Thursday, July 19. The Art Workers' Guild will entertain a small party of members on the evening of Friday, July 20. The chairman and directors of the London Exhibitions, Ltd., have put 500 invitations to visit the Imperial Royal Austrian Exhibition at Earl's Court at the disposal of the executive committee. Application for tickets must be made at the Congress Bureau, Grafton Galleries. The Zoological Society of London have kindly offered admission to foreign members to their gardens on Sundays, July 15 and 22—days when they are closed to the general public—on presentation of their cards of identity. The Royal Botanic Society have kindly offered members free admission to their gardens during the Congress week on presentation of their cards of identity. The Lyceum Club (for ladies) will constitute lady members of the Congress visiting London hon. members of the club. The Lyceum Club also kindly offers a reception to the Congress on the afternoon of Wednesday, July 18. The ladies' committee are arranging for the comfort and convenience of ladies. They will be recognisable by the committee badge.

Visits.

A. Hatfield.—The seat of the Marquis of Salisbury. Tuesday, 2.30. B. Hampton Court Palace.—Tuesday, 2.30. A and B are alternative visits, and will take place simultaneously. C. Buckingham Palace Gardens.—By the gracious consent of His Majesty King Edward VII.; and Westminster Abbey. Wednesday, 2.30. Later—D. The Works of Messrs. Holloway Brothers and E. The Potteries of Messrs. Doulton & Co. These visits D and E will take place simultaneously. F. Windsor Castle.—By the gracious consent of His Majesty King Edward VII. Thursday, 2.30. G. St. Paul's, the Temple, the Institute of Chartered Accountants, St. Bartholomew's Church, Smithfield. Thursday, 2.30. This London visit is arranged for those who do not go to Windsor, as also alternative visits :—H. Kensington Palace; Dorchester House, by the kind consent of his Excellency the American Ambassador. J. Oxford.—All-day visit on Friday. Lunch in the halls of Exeter College and Balliol College. K. Cambridge. —All-day visit on Friday, alternative with Oxford. The Congress party will be received in the Senate House by the Master of Trinity as Deputy Vice-Chancellor. Lunch in the halls of King's College and Clare College. L. Tower of London.—Friday morning, for those who do not join the Oxford and Cambridge visit. M. Victoria and Albert Museum and Royal College of Science: Sir Aston Webb's new buildings. Friday afternoon, for those who do not join the Oxford and Cambridge visit. N. Bridgewater House. By the kind consent of the Right Hon. the Earl of Ellesmere. Saturday morning. O. Greenwich Hospital. Saturday afternoon. P. Houses of Parliament; the new Westminster Cathedral. Saturday afternoon, for those who do not join the Greenwich visit.

Farewell Banquet.

The farewell banquet will take place on the evening of Saturday, July 21, at the Hôtel Cecil, at 7.30. Price of ticket (wines included), 21*s.* It is hoped that many distinguished persons in London will be present. Sir Lawrence Alma-Tadema, R.A., has kindly consented to design the menu-card.

Exhibitions.

There will be the following exhibitions in the Congress premises, Grafton Galleries :—An exhibition of photographs of buildings executed by living British architects; a chronological exhibition of British architecture from the Norman Conquest (1066) to the death of Sir Charles Barry (1860); oil-paintings and water-colour drawings of English architecture; a few choice specimens of British furniture and silverwork. At the premises of the Architectural Association, 18 Tufton Street, Westminster, S.W., will be exhibited a selection of Viennese students' drawings arranged by Professor Otto Wagner (Vienna).

The subjects for discussion will be :—(1) The execution of important Government and municipal architectural work by salaried officials; (2) architectural copyright and the ownership of drawings; (3) steel and reinforced concrete construction; (4) the education of the public in architecture; (5) a statutory qualification for architects; (6) the architect craftsman—how far should the architect receive the theoretical and practical training of a craftsman? (7) the planning and laying-out of streets and open spaces in cities; (8) to what extent and in what sense should the architect have control over other artists or craftsmen in the completion of a national or public building? (9) the responsibilities of a Government in the conservation of national monuments; (10) the organisation of public international architectural competitions.

The executive committee have also arranged for Professor Meydenbauer, of Berlin, to read a paper on "Messbildverfahren" or "Photometry." A communication on this subject has also been received from M. Marcel le Tourneau, of Paris. M. Honoré Daumet (Paris) will read a communication on the Château de Saint-Germain. Mr. Cecil Smith (keeper of Greek and Roman antiquities, British Museum) will read a paper on "The Tomb of Agamemnon." Abstracts of the papers and communications will, if possible, be sent to members of the Congress some time before the opening day.

SUSSEX ARCHÆOLOGICAL SOCIETY.

A SPECIAL meeting of the Sussex Archæological Society was held at Lewes town hall on Friday. It was convened to "discuss the plans and estimated cost of building the proposed new library and museum in the 'Gun Garden' adjoining Lewes Castle," and the extent and representative nature of the attendance illustrated the importance attached to the subject by archæologists throughout the county. This fact was appreciated by no one more than the chairman (the Rev. Canon J. H. Cooper), who had taken the precaution to circularise the members on the subject, urging their presence in view of the importance of any decision to which the meeting might come.

The Chairman, says the *Sussex Daily News*, prefaced the discussion with a few details, which were supplemented by Mr. Reginald Blaker, in regard to the history of the problem to date. Briefly it may be stated that in 1903 the Society learned that the house at Lewes Castle, occupied for nearly twenty years, had been sold without any intimation being given to them, and the fact necessitated the provision of suitable premises elsewhere. In December of that year a committee was formed and, to secure for the Society access to the castle, what is now known as the "Gun Garden" was acquired. It was upon this site that a proposal to erect a museum and library gained favour in some quarters. Plans were prepared for a "simple two-storeyed building" containing a museum and a strong-room for valuable MSS., &c., on the ground floor and a well-lighted library and study above, with a convenient residence for a caretaker. The cost of this building, with necessary furniture, it was estimated, would probably reach if not exceed 3,000*l.* It was apparent to all who attended a general meeting of the Society last March that there was no unanimity of opinion on the subject, several of the members being averse to the erection of a building on the "Garden" site. On the question of expense, the Chairman mentioned that the Society now had a membership of several hundreds, and the subscriptions towards the estimated cost of the new project, given for two years, would not average more than 3*l.* or 4*l.* He emphasised the essentiality of securing access to the castle, supporting his contention, from a monetary point of view, by mentioning that something like 150*l.* per annum was derived from fees for admission paid by visitors, though last year, he added, he believed there were 200 less visitors than the year before, in consequence of the museum's removal, and they only took 113*l.* The Society, he added, had a valuable museum, but it was housed very badly in, he might almost say, a "damp, dim and dreary dungeon" in the castle, and they really needed other accommodation. They wanted to make the library and museum attractive, not only for the present, but for the future. If they had a strong room he believed they would have antiquities, manuscript charters, manor rolls and so on sent to them from all parts of the county. He hoped the scheme would be the means of drawing the Society closer together and increasing its popularity and usefulness. He thought credit should be given to the sites committee for having acted with the best motives and in a manner which, in their opinion, would be of service to the Society.

The Rev. W. Hudson moved "That the plans and estimates now submitted be approved, and that the Council be requested to proceed with the work." This was seconded by Mr. Salzmann, and a lengthy discussion ensued.

Mr. C. E. Clayton said it was exceedingly difficult to give credit to a member of the committee who was instrumental in turning the Society out of its former house. He passed that remark, he said, in view of the chairman's observation that they should give credit to the committee for acting with the best motives. The speaker described the proposal to erect a building on the "Gun Garden" site as "an act of vandalism of a monstrous and extraordinary nature." He asked the members to record in the most unmistakable manner their opinion that to erect any building whatever, even if were to be only the height of a chair, in the "Gun Garden" was a distinct error, not only of judgment, but one of those things that no archæological society should countenance. He did not think as many as fifty members would offer a subscription to defray the cost if that scheme was carried into effect. So far as the library was concerned he criticised its arrangement. It was, he remarked, uncatalogued and difficult to consult.

A member elicited the fact that the castle was held on a yearly tenancy, and expressed the opinion that it might be absolutely useless to secure access to the building by the "Gun Garden" site on a lease of ninety-nine years, unless the Society obtained a tenure of the castle for an equivalent term.

Mr. Griffith mentioned for the information of the meeting that the feeling on the part of members of the Council in regard to the proposal had been strongly and distinctly divided from the first. There were, he added, three questions probably in the minds of everyone present that day, viz., should they or should they not adopt the proposal, and assuming that they did not use the "Gun Garden" site for the building, what was to happen? He thought the meeting should consider the first two questions, and in the event of a decision against the proposal, leave the third question to the careful consideration of the Council, to be reported upon fully at the next general business meeting of the Society.

Mr. Garraway Rice stated that at first his mind was made up that it was a useful proposal. He was, however, anxious to hear the arguments of other members of the Society, the Council, he was sure, being in no way anxious to run into this "Gun Garden" scheme in the teeth of any *bonâ-fide* opposition.

Mr. De Paris said (presuming for the moment that the scheme was favoured):—"You will lose your prestige and you will also lose a number of members who probably prefer that the Society should belong to Lewes, and who would not care one jot for that Society if it were removed to a modern town." He opposed the scheme on the ground that a view of the ancient gateway would be obstructed in a manner that would be to the detriment of the antique interest of the castle remains. He thought, moreover, that the site under notice would prove damp, and he could not see his way to vote in favour of its use for the locale of the Society's museum and library. There were other places in Lewes, he said, which presented more favourable conditions, and he suggested, as an instance, what is known as Anne of Cleves's house, in Southover, which, he said, stood on high ground and was suitable for the purpose.

Mr. Bentham Stevens considered the Council had tried to kill two birds with one stone, by securing access to the castle *via* the "Gun Garden" site, and by proposing to erect thereon the library and museum. In doing so, however, he maintained that they had made a great mistake. He thought that a suitable site for the latter purpose could be obtained in Lewes or elsewhere.

Mr. Harry Willett, who lives in close proximity to the castle, opposed the proposal from an archæological point of view, and also from that of the public, who probably had no wish to see a modern building erected under the ancient walls.

Mr. Aubrey Hillman, J.P., corrected a previous speaker in regard to the elevation of Anne of Cleves's house, which, he said, stood on ground about 25 feet above sea-level, whereas the elevation of the "Gun Garden" was between 80 and 100 feet.

Mr. Bedford contended that the Society should remain "wholly and solely" at Lewes, but he opposed the "Gun Garden" scheme.

With reference to Anne of Cleves's house, Southover, the Mayor of Lewes mentioned that he had received a letter from Mr. Frank Verrall, who heard the matter from the *Sussex Daily News*, in which the writer stated that he would be pleased to contribute 100*l.* towards the purchase of the house, if that course was decided upon.

Mr. Runtz sought information as to how the Society would stand in regard to the conditions of the lease in the event of the meeting deciding not to erect the building on the "Gun Garden" site. Shall we, he asked, be bound to spend 750*l.* on some other building if we do not erect a museum on the ground?

The Hon. Secretary: The lease does throw upon us the liability to build.

It subsequently transpired that the lease had been signed, but Mr. Griffith explained that the Society had not yet taken the lease.

Mr. Runtz: Are we not bound to take it up?

Mr. Griffiths: We might be, in honour.

Mr. Runtz spoke of the increased interest that had been evinced in the doings of the Society as the result of the publication of so many letters on the "Gun Garden" scheme in the press.

The Chairman then asked for a show of hands on the motion.

No one supported the proposal, and it was rejected by what appeared to be an almost unanimous vote.

Subsequently Mr. Griffith proposed the following resolution:—

"That the Council be requested to make inquiries into the best method of making the library and collection of prints and collections belonging to the Society conveniently available for the members, without undue expense to the Society, and report to the first general meeting to be held next year."

Mr. Somers Clarke seconded, whereupon Mr. Aubrey Hillman moved as an amendment the insertion of the words, "at a site in Lewes," in the resolution, to follow the phrase "conveniently available." He maintained that they should keep the library at Lewes and prevent it going to Brighton.

On the other hand, the Rev. J. P. Bacon Phillips strongly advocated the removal of the locale of the library to Brighton.

Alderman Wightman, who seconded the amendment, impressed upon the meeting that Lewes was more suitable than Brighton for the library of the Society.

The amendment was carried, and the resolution, as altered, adopted.

THE SURVEYORS' INSTITUTION.

The members of the Surveyors' Institution met in conference in Birmingham on May 25. The Corporation placed the Council House at the disposal of the visitors, and before the formal proceedings of the conference were entered upon the members were cordially welcomed to the city by the Lord Mayor (Councillor A. J. Reynolds). The chair was occupied by the president, Mr. Charles Bidwell, of Ely.

The Growth of Birmingham.

The first paper read was by Mr. H. A. Pritchard (deputy town clerk) on "The History and Development of Birmingham," in which, says the *Birmingham Daily Post*, he gave an interesting but necessarily brief account of the growth of Birmingham from a humble hamlet to a world-famed industrial centre. From the hamlet to the village community, concluded Mr. Pritchard, from the village community to the country town, and from the country town to the populous city, they found Birmingham in the early years of the twentieth century the metropolis of the Midlands, and one of four of England's greatest provincial towns. The centre of a large and populous district she embraced within her own boundaries a population of 543,000 inhabitants, the results of whose industry found a market throughout the world. A glance at her local history, however, illustrated that the records of her principal citizens formed the chief factor in her success and development. A Birmingham man had been described as "of strong individuality, independence of character, facility of resource, and with an enduring love for the old town." The city had not attained her present wealth, dignity and importance except by the efforts of her leading men. Each in his different sphere had influenced her progress—from Boulton the resourceful manufacturer, Watt the inventor, Baskerville, Priestley, Scholefield, Attwood the reformer, and many others to the present senior member for the city, whose early public life and administrative genius were devoted to her welfare with such marked success and fruitful results.

Economic Geology of the Birmingham Country.

Professor C. Lapworth followed with a remarkably interesting paper, from which it appeared that had it not been for certain geological movements the Birmingham of to-day would have been a very different place from that described by Mr. Pritchard. In the course of his address on "The Economic Geology of the Birmingham Country," Professor Lapworth said the solid floor of the district, like that of every other extended area in Britain, was formed by the edges of the massive rock-sheets that constituted the so-called geological formations. Omitting the complicated little area of the Lickey Hills, there were seven of these formations. If these seven rock-sheets had remained horizontal, as they were originally deposited, the strata of the highest formation, those of the keuper marl, would to-day have formed a gently undulating lowland like that of Central Warwickshire. The mineral riches of the coal and iron beds of the South Staffordshire coalfield would have remained undiscovered, buried half a mile deep below the surface of the ground. The Birmingham country, instead of being what it was at present, a land remarkably varied in its scenery and productions, inhabited by a teeming manufacturing and mining population, collected in great towns and in the van of industry and progress, might have been a monotonous agricultural region, with a scanty population gathered here and there into quiet little villages—a country peaceful and picturesque it might be, but without progress and almost without a history. But, providentially, the great rock-sheets had not remained horizontal. They had been bent up in the western parts of the district into the domelike form which was termed the Staffordshire arch, and warped down in the eastern parts into the basin-like form called the Warwickshire trough. They had been broken across and dislocated by the two great crust fractures, which they knew as the western and eastern boundary faults of the South Staffordshire coalfield, and also by a third great fracture, the Birmingham fault, which ran through the city itself. Professor

Lapworth described in detail the various geological formations.

Mr. Charles Vernon, in proposing a vote of thanks to Professor Lapworth, referred to the geological advice to surveyors contained in his paper. He said the whole world had had a terrible lesson in geology, and they wanted to know more of the interior of the earth if they were to avoid the dangers of Naples and San Francisco.

Mr. Gilpin Brown, chairman of the Warwick and Worcester provincial committee, seconded the resolution, and it was carried.

Professor Lapworth, acknowledging the resolution, said geology was regarded as a mysterious science, but the riches of Birmingham and the Black Country were questions of geology; in fact, they might say in a general way that geology was at the base of everything.

Legislation and Real Estate.

Mr. John Willmot read a paper on "Proposed Legislation affecting Real Estate," in which he gave a short epitome of the following Bills:—The Land Valuation (Scotland) Bill, the Public Health Acts Amendment Bill, the Housing of the Working Classes Act Amendment Bill and the Land Tenure Bill. Dealing with the second named Bill, Mr. Wilmot said that in considering the revision of by-laws they would agree with him that due provision should be made to insure that only such houses were erected as would provide sanitary and wholesome dwellings. This would still be possible even if by-laws were relaxed so as to permit of the use of various kinds of materials in the erection of buildings. He believed that the by-laws should prescribe a minimum size and height for rooms, and the proportion which the area of the window should bear to the floor space. The revision of by-laws on the above lines would admit of the erection of cheaper houses, which would naturally tend to an increase in the building of cottages, and in some rural districts would be of great assistance in keeping the agricultural population upon the land. The remedy for overcrowding in urban districts was, he believed, to a great extent within the power of the local authorities themselves, and the difficulty could be met by relaxing the by-laws as to the construction of new streets. In agreeing to the construction of less expensive roads, the local authorities might reasonably stipulate for a certain area of land to be allotted to each house. If this were done he felt sure a great step would be taken towards the provision of healthy and wholesome houses for working men at a reasonable cost on the outskirts of the great centres of population, where they were often at the present time so urgently required. But so long as the existing cast-iron rules were applied to the construction of all roads, so long would the difficulty of providing cheap and healthy houses for working men continue. The whole question of building by-laws and by-laws relating to the construction of new streets was a matter which might with advantage be dealt with in a Bill to be introduced by the Government, the provisions to apply to both urban and rural districts. Dealing with the third mentioned Bill, to enable rural district councils to adopt Part I. of the Act without first obtaining the leave of the county council, the speaker said he was strongly of opinion that local authorities should not be permitted to speculate with the ratepayers' money in carrying out building schemes which would probably result in a loss and a consequent taxation of the ratepayers, some of whom might be erecting cottages to compete with them. There was at the present time plenty of private capital available to erect all the houses required, providing a reasonable return on the capital could be assured. There was no demand or necessity for the Land Tenure Bill, which was likely to interfere with the present pleasant relations between landlord and tenant.

A vote of thanks was accorded Mr. Willmot for his paper. In the short discussion that followed, the Land Tenure Bill was strongly condemned, while one speaker described the legislation as "most mischievous and socialistic."

In Response to the appeal of Mayor Schmitz, of San Francisco, for architects, draughtsmen and superintendents of building construction to assist in rebuilding the city, Hapgoods, the national American organisation of employment experts, has offered its services without charge either to employer or employé, and will work in close co-operation with the city authorities in finding suitable men to go there immediately.

DECADENCE OF ART.

An address was delivered by the Bishop of Birmingham on "The Decadence of Art." His Lordship insisted that while we had advanced in the gifts of mechanical power, we had distinctly gone back on the artistic side. We gazed on the relics of Greece, in which the human spirit was exquisitely expressed in form and outline. We luxuriated on the great spirit of Mediæval or Renaissance art. We took the great epochs of art in Flanders or Spain, and we examined the extraordinary wealth of artistic skill of certain kinds which must have belonged to Mediæval England. We marvelled both at the glory of those manifold gifts and at the strange way in which they had been withdrawn. There were those who hoped that a revival would take place. They were growing dissatisfied with the hideous mechanism of our decorations and of our ornaments in houses and in churches. They would encourage everything by which men might be trained to make the most of their gifts, but any healthy revival must be in the direction of making beautiful the common things of use in houses and churches. We must begin at the foundation, and make beautiful the common and the serviceable things of life. What great need there was. In the churches much money had been lovingly spent on brasswork, on altar rails, eagle lecterns and screens. Frequently they were mechanical, ugly, formless, barren of ideas. They seemed to have been turned out at so much the yard. There was so little of this class of work which they would wish should be retained and handed down to future generations. It would be done only with a sense of shame, because the outlines were so feeble, the conception and the execution so purely mechanical. There was much to be desired, too, from an artistic point of view in the furniture of the house and of the church. The work of recovery must begin from the bottom. It must be in the cultivation of the common sense of form and beauty. There should appear something of the individual soul, of the personality, in such work, even on common objects. In no place more than Birmingham, where so much was made which served the purposes of life, ought encouragement to be given so that things might be made alike serviceable and beautiful.

ARCHITECTURAL ASSOCIATION OF IRELAND.

The final general meeting of the session of the Architectural Association of Ireland was held on the 22nd ult. Mr. H. Allberry, president, occupied the chair. The following officers for the ensuing session were elected:—President, Mr. J. Holloway; vice-president, Mr. E. Broadway; committee, Messrs. J. H. Webb, H. Allberry, H. G. Leask, G. F. Beckett, A. G. C. Millar, M. J. Burke, P. L. Dickinson, J. Geoghegan and G. L. O'Connor; hon. treasurer, F. Hayes; hon. secs., L. O'Callaghan and C. H. Mitchell; hon. librarian and registrar, G. C. Lynes; hon. auditors, G. L. Harrison and J. W. Beckett.

On the walls of the lecture hall drawings which had been executed in competition for prizes were exhibited. The President said it was a satisfactory feature of the work of that Association to see their younger members qualifying themselves in a marked degree for the profession which they had adopted.

The President then distributed the prizes as follows:—10*l*. A. A. I. Travelling Studentship, C. G. Ramsay; Institute Prize, 10*l*. 10*s*., A. W. Reid; Lynch Prize, 5*l*. 5*s*., H. G. Leask; Downes Bronze Medal, G. F. Beckett. History Class—1st, 2*l*., T. F. Strahan. Building Construction—1st, 2*l*., P. J. Munden; 2nd, 1*l*., J. W. Beckett. Class of Design—1st, 2*l*., C. Keefe; 2nd, 1*l*., P. J. Munden.

The Secretary announced that the committee had fixed on Northamptonshire for their next annual excursion.

On the motion of Mr. W. Stainer, seconded by Mr. C. H. Mitchell, a vote of thanks was passed to the scrutineers and to the secretaries.

The President, on vacating his office, said that the session on the whole had been an average one. The committee had grappled with the details of classes for education and for the formation of a museum. The latter had been placed on a workable basis, and provided it received the support of manufacturers and others, it would prove of incalculable benefit to them all. They owed a debt of gratitude to Mr. Hayes, the hon. secretary of the committee, for all the work he had done in connection with this matter.

On the motion of Mr. C. H. Ashworth, a vote of thanks was passed to Mr. Allberry, and the proceedings terminated.

NOTES AND COMMENTS.

There is a curious dispute in progress at Berlin with regard to the Virchow Memorial. Virchow was one of the great reformers of medicine as a science. Believing that prevention was better than cure he became a champion of sanitary reform. There were other men who took up the cause at an earlier time, but none of them had a similar reputation for scientific knowledge. After his death it was decided as a matter of course that he should have his memorial in Berlin—the city where he not only experimented and investigated, but of which he was one of the Parliamentary representatives. A competition was accordingly arranged among sculptors and a jury was appointed. Medical men were, of course, influential not only as members of the jury but as promoters of the memorial. Indeed, some believed that it was their ideas which the successful competitor, Herr Kleinsch, was ambitious to express. He contented himself with having a medallion portrait of Virchow, with several allegorical figures which were suggestive of the good fight which the pathologist made against foes of public health. The men who have an interest in Virchow from belonging to his profession, and who profess to follow in his footsteps, are eager to have a large statue of him, all the other details being subservient to it. A man who undertakes such a task as Virchow's has to become a solitary, and it is hardly correct to suggest for the benefit of posterity that he adopted a soldier's tactics. He gained by intellectual rather than by physical force. The dispute is causing much interest in Germany, because it affords an opportunity to bring forward rival systems of æsthetics. Meantime the progress of the memorial is delayed.

It has often been remarked that in this country painters who find no demand for their works in oils or in water-colours have a scorn for lithography which, in France and England, allows artists profitable employment in the intervals between work of a more ambitious kind. It is a satire on the principles instilled into students in art schools when we find that the education committee of the London County Council are obliged to turn to German artists for examples which can be hung in the metropolitan schools. They are able to obtain pictures which they describe as "the outcome of an art movement in Germany, which has for its objects the closer and less artificial connection with nature and the improvement of the technique of the reproduction of colour; they contain the work of living German artists, and are reproduced by a special artistic lithographic process. The originals have been specially painted with a view to their reproduction in colours, hence their comparative simplicity in conception and design, and broad, powerful colouring effects. Each sheet is an auto-lithograph, and every stone requisite to its production is prepared by the artist himself." What is likewise remarkable is that the German coloured plates are not only less conventional than black and white plates obtained from English publishers, but they are much cheaper. In order to make the plates better known it is proposed to hold an exhibition in the Central School of Arts and Crafts next month.

It is common to expect much difference in valuations by experts of buildings and other property when they give evidence before an arbitrator. But a somewhat unusual kind of subject is a ferry, especially when it is connected with a small town. A case of the kind has just come before Mr. Daniel Watney. The Urban Council of Littlehampton last year obtained an Act to enable them to construct a bridge across the Arun, from plans by Major Tulloch. A chain ferry existed since 1824, and it was found to be sufficient to serve the rather irregular traffic. It was necessary to purchase the ferry rights. In 1899 the tolls were rented at 250*l.* per annum. But now the rent has increased to 862*l.* Out of that sum have to be paid wages, repairs, rates and taxes, which now amount to 481*l.* per annum. When it was necessary to have an estimate of the cost of the undertaking, the solicitor to the Ferry Trustees stated that the Urban Council would have to pay 4,000*l.* That amount was based on insufficient data. At the inquiry Mr. W. H. Elwill, for the trustees, estimated the value of the ferry at 21,870*l.*, Mr. R. S. Ellis at 22,864*l.* On behalf of the Council Mr. S. Walker considered the value to be only 3,703*l.*, while Mr. A. L. Ryde gave it as 3,465*l.* After consideration, Mr. Watney declared on Tuesday that the sum to be paid to the trustees will be 8,415*l.* As an examination of the account books showed that during seven years the average receipts amounted to 665*l.* a year, while the corresponding expenditure was about 530*l.*, and the average dividend was $5\frac{1}{4}$ per cent., or 158*l.* on a capital of 3,000*l.*, it will be evident that the trustees have reason to congratulate themselves on the result.

ILLUSTRATIONS.

THE ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, WATERLOO BRIDGE ROAD, S.E.

THE new Hospital for Children and Women contains on the ground-floor the administrative offices, with accommodation for secretary, committee, matron, resident medical staff, waiting-rooms, hall and entrance-porch, situate at the corner of Waterloo Bridge Road and Stamford Street. The first, second and third floors are devoted to the wards, each ward having an open balcony. The bath-rooms and sanitary offices are separated by a ventilated corridor on each floor. Provision is made for a day-room on the first floor, an isolated ward on the second floor, and operating theatre on the third floor. The floors are of fire-resisting construction throughout. The total cost of the buildings was about 50,000*l.* The front is of red brick and terra-cotta. The corner entrance-porch is of glazed ware by Messrs. Doulton & Co., who defrayed the cost thereof as a gift to the hospital. The contractors were Messrs. Holliday & Greenwood, Ltd., and the architects Messrs. Waring & Nicholson.

COMPETITION DESIGN FOR COUNCIL HOUSE EXTENSION BIRMINGHAM.

THIS design shows a scheme planned on axial lines, and with the irregularity in Edmund Street squared up. The galleries have been arranged for convenient circulation, long vistas, and the large gallery next Edmund Street has a simple architectural treatment which is not out of place in a scheme of this extent. The galleries are approached from the old museum by means of a bridge across Edmund Street in one span. The future extension between the loan gallery and Great Charles Street has been designed for the extension of picture galleries on the first floor and sculpture galleries, together with a grand entrance and staircase in the centre of the Great Charles Street façade. The office blocks in Margaret Street and Congreve Street can be readily followed from the plan, which shows a staircase and lifts arranged on the axis projecting into the area and a continuous suite of various departments to the fronts. The angles of the block are rounded between two pavilions to help the electric trams which circulate round the building. The gas department is placed in the centre of Edmund Street front under the galleries, with domed skylights. The tramway department has a separate entrance from Great Charles Street, where an entrance for vans is provided to each area. The elevations have been designed to harmonise with the old buildings, with the enrichment concentrated in the pavilions. Messrs. Nicol & Nicol are the architects.

MASONIC INSTITUTION FOR BOYS, BUSHEY, HERTS.—CHAPEL ALTAR—CHAPEL, WEST END.

CATHEDRAL SERIES.—TRURO: NAVE AND WEST END WITH GALLERY.

The name of the architect of the premises, No. 47 Maddox Street, W., published last week, should have been inscribed on the plate as Mr. W. A. Williams, as in the description.

THE GENERAL SUPPLY OF ELECTRICITY.*

AT the present time, when so much has been done in Europe and in America to provide a general supply of electricity, and almost the whole of England has been parcelled out among a number of electric-power companies, there needs some explanation as to the selection of the title for this paper, and likewise as to the nature and scope thereof.

It is not intended in the following remarks to include anything of a technical character, since the many fine examples of electricity distributing stations which exist in this and in other countries clearly show that it is unnecessary to do so. But it does not require any intimate acquaintance with the conditions which prevail in this and in other countries respecting the supply of electricity for industrial purposes to arrive at the conclusion that in England the facilities generally available are much less than in other important countries. And this country is thereby placed at a considerable disadvantage in its commercial competition with European, American and other markets. The object, therefore, of the following remarks is to endeavour to ascertain the cause of the backwardness in this country, while at the same time suggestions will be put forward and discussion invited thereon, in the hope of finding a remedy whereby the want of enterprise which prevails in this country as to the extension of these general supplies of electricity may be further stimulated; and at the same time an increased confidence therein may be imparted both to manufacturers and to the general public to avail themselves of the advantages thus offered to them.

During the last few years the value, nay, almost the need, of electrical energy in carrying out a large number of operations which are of almost primary importance to the welfare and interests of the community at large has become gradually more and more recognised.

These interests may be described (1) of a public character, and involving not merely the sanitary and other similar objects which are embraced under the phrase "electric lighting," but also in the further facilities afforded under the head of "traction," to enable the public to carry out more expeditiously their ordinary avocations; (2) of a private character, in providing the commercial and the trading portion of the community with improved methods of carrying out their various kinds of manufactures, in the transport of their materials, and in the disposal of their manufactured goods; and (3) of an almost national character, in providing more favourable conditions for British commercial interests in the keen competition which is arising against us in our own as well as in foreign markets.

It is admitted that a general supply of electrical energy, laid down under favourable commercial conditions, and capable of complying with the requirements of all of the above-mentioned interests, is becoming a matter of much moment to the community at large, far exceeding the limits of the private interests of certain trading and commercial circles.

To insure, however, the production and supply of electrical energy under the most favourable conditions, especially as to financial economy, the clashing of conflicting interests must be avoided as far as is possible.

It is with this object that efforts have been made during the last few years by the Board of Trade, by some of the county councils and also by some of the more important users of electrical energy to endeavour to obtain uniformity, especially on two points, viz. (*a*) similarity in the nature of the electrical supply; (*b*) uniformity in the gauge of the roadways used in transportation.

Some progress has taken place of late on both of these points, and also important attempts are being made to obtain continuity in transportation. For instance, a commencement was made some time back by the Liverpool Corporation and by the South Lancashire tramways to convey both passengers and goods over their joint systems, wherein they had the co-operation of the Mersey Docks and Harbour Board and of the Great Central Railway.

One of the most serious drawbacks, however, to a satisfactory solution of the many difficulties which prevent the question of the supply of electrical energy being dealt with in a broad and comprehensive spirit, such as is suggested above, is the attitude in which the entire matter has been approached by the Legislature during the past few years—that of treating it as if it was simply a private trading question, and entirely overlooking the numerous and varied interests of the public community.

To illustrate the difference between the private trading concern and that of the public character of the position which is looming in the near future—if, indeed, it is not already within a very measurable distance—we may take as an example the belt of country comprised within South Lancashire and the West Riding of Yorkshire, a district extending from sea to sea, teeming with an industrial population and embracing some of the most important trades and commercial enterprises in the British Isles. The district probably contains within it about one-quarter of the population, as also of the commercial energy of the whole of England. Over this large tract of land, embracing about 4,000 square miles, the Legislature has granted rights to two private companies for the production and supply of electrical energy, and those rights, covering about 4,000 square miles, are practically exclusive ones amounting almost to monopolies granted in 1900 by the Lancashire Electrical Power Act, and in 1901 by the Yorkshire Electrical Power Act, a number of private traders, yet with the result in 1906 that so far practically little or nothing has been done to carry out those powers.

Nor can it be said that this result is due to any enormous amount of capital required, or to the magnitude of the works which are necessitated.

The result would rather appear to be due to the multiplicity and importance of the large and varied interests throughout this vast district, which are now forcing themselves prominently forward; showing that these interests are too important to be dealt with satisfactorily for the public weal by private traders, no matter how distinguished the individuals may be.

It would seem, therefore, as if the community of interests, so large and important in themselves—of both a public and a private character—as to be almost national in their scope, could only be dealt with by a public board, which would represent most, if not all, of the numerous and varied interests which centre in the large and important portion of England now being referred to in Lancashire and in Yorkshire. And this likewise would apply to other similarly situated areas allotted to electric-power schemes.

Fortunately examples exist of such public boards, as, for instance, the Mersey Docks and Harbour Board, the pioneer, with its half-century of experience, and others of a similar character. There are boards connected with the Clyde and the Tyne; there are also the Thames Conservancy Board, the Metropolis Water Board, as well as others, representing inland rivers, and also water authorities.

Nor need the fact stand in the way that Parliamentary powers already exist and protect certain private and vested interests. For did not the same difficulty arise, only with perhaps greater force, against the formation of the Mersey Docks and Harbour Board; in the vested interests of the Liverpool Corporation in their long-established docks, as also of the more recently appointed trustees of the Birkenhead Docks? Yet these difficulties, and others subsequent to them, have all been successfully overcome, and in a spirit of fairness to all interests, wherever it has been shown that the public weal demanded it.

The advantage of a board of such a representative character, containing both manufacturers and users of the electric energy, as well as others commercially interested in the welfare and extended development of that supply, would be that it would engender and foster a friendly spirit for its success throughout the entire district, and would thus become essentially a "home-supply," replacing thereby the spirit of continuous and ever-increasing rivalry with which a private company trading for its own advantage and not for that of the district itself would meet with on all sides.

A further advantage which would follow from this board, combining general and local interests, working for the benefit of the district itself, would be the exclusion of outside and, still more, of foreign interests, which last already have done much in this country, it is said, to hamper and even to mar the progress of electric-power schemes.

All recent Parliamentary legislation connected with electric-power Acts has been based upon the report (in 1898) of the joint select committee of the House of Lords and the House of Commons, known as Lord Cross's committee, he having been chairman thereof. This committee was specially appointed for the purpose of considering the subject of "electrical energy, generating stations and supply." In their report the committee recommend practically that the lines upon which, with certain modifications, the Electric Lighting and Power Acts which had been passed between 1863 and 1898 should be continued. These were to grant compulsory powers, either to local authorities or to incorporated companies, for the carrying out of the electrical supply under conditions settled by the Board of Trade, and these powers practically gave the undertakers a monopoly of the electric supply in the district allotted to them.

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* A paper by James N. Shoolbred, B.A., M.Inst.C.E., read at a meeting of the Society of Arts on May 23.

Subsequent experience has shown, however, that the conditions under which the earlier Electric Lighting and Power Acts, each with its moderate area of a few square miles, and having but one common centre for the various interests, both public and private, are altogether different from those which occur in the electric-power schemes, such as contemplated by this committee, with their areas of 1,000 square miles, and in a few cases up to 2,000 square miles. For, in the latter case, the large area invariably contains within it a number of the local centres of the earlier Acts, often conflicting one with another, and therefore very difficult to weld into one homogeneous whole, and under one single managing body. But when, besides this diversity of "public" interests in various parts of the district, there are added the numerous and often very conflicting claims of the manufacturing, the trade-carrying and other so-called "private" interests, the difficulties are still further increased, and the more so because all these "private" interests are inclined to resist being placed in the hands of a virtual "monopoly" by a particular class. These difficulties, it is safe to say, did not present themselves to the select committee of 1898, nor were they considered in their "report." Nevertheless such difficulties are arising every day, and to insure success for the electric power supply they must be met as far as possible.

Then again, as to the Stock Exchange and the absence of financial success which has followed some of the appeals made by the promoters of electric-power schemes. With a concern beset with conflicting difficulties such as have just been stated, and in itself, in some cases, almost "a tied concern," and also largely without the confidence of the class whom it would desire to secure as its customers, is it surprising that the financial appeal should not be a success? But what is the requisite, it may be asked, that is necessary to secure this confidence in the electric-power supply? "Community of interests with the promoters in the welfare of the concern, and a proportionate share with them in the management of the electric supply, and for the benefit of all interests in any way connected with it." This is the reply of some who have followed these matters closely, whose opinion, from their acquaintance with the different bearings of the question, is entitled to consideration.

It is true that an attempt by some of the electric-power companies has been made to offer to share with their customers the profits above a certain figure. But this does not suffice to arrive at anything like complete success. To do this there needs a proportionate representation on the managing body of all interests concerned in the development of the electric supply. But this means a public body specially selected in its members and adapted to the varying conditions of the locality under consideration, and the larger the area of the district the greater the difficulty in reconciling and in duly representing the various interests contained within it. But the task of doing so successfully, within the limits of a public board, is not impossible, since many examples thereof exist in various parts of the country. Probably one of the best-known examples of a public board having within it a number of interests to be dealt with, and successful in dealing with them, is that of the Mersey Docks and Harbour Board at Liverpool, which has an existence of half a century. The Board was formed in 1857, and it took over the control and management of the docks at Liverpool and at Birkenhead. It consists of twenty-eight members, of whom twenty-four are elected by the dock ratepayers and four are appointed by the Conservancy Commissioners of the river Mersey, viz. the First Lord of the Admiralty, the President of the Board of Trade and the Chancellor of the Duchy of Lancaster.

A person to be qualified to be an elective member of the Board must reside within the Customs port of Livepool, or within ten miles of the outward boundary of that port. The members are elected for four years, and eligible for re-election. They receive no remuneration for their services.

The qualification of an elector is the payment to the Board of rates, due from him in respect of ships or goods, to an amount of not less than 10*l.* in the year preceding the 1st of August. He must be a British subject, or if a foreigner be resident in the United Kingdom, and his name must be on the list of dock electors; this in 1905 contained 3,500 names.

The above are the official regulations relating to the constitution of the Board set out by Act of Parliament. In order, however, to insure the fair and proportionate representation of the various interests on the Board, such as of steamers and sailing vessels, of corn, cotton, general produce, &c., an arrangement or understanding has come into operation under which, by tacit consent among the twenty-four elected members, persons are elected representatives of certain trades carried on in the port. This arrangement has, however, no binding effect, and occasionally persons are nominated for election independently of this arrangement. To this tacit understanding, however, is attributed much of the fairness and the smooth working of the Mersey Docks and Harbour Board. The various interests, based upon the amount of dock dues, &c., paid by each trade, are generally supposed to be divided among the 24 elective members of the Board in the following proportions:—Steamers and sailing vessels, 12 members; general produce, 4; corn, 2; cotton, 2; provisions, 1; fruit, 1; and independent, 2. The total income of the Board in 1905 amounted to somewhat over 1,250,000*l.* sterling, of which the steamers and sailing vessels contributed 700,000*l.*

The Clyde Conservancy, 1871, consists of twenty trustees, eleven being elective (six by the ratepayers of Glasgow, three by those of Greenock, and two by those of Port Glasgow). Five appointed ones—two by the Chamber of Commerce of Glasgow, two by the Chamber of Commerce of Greenock and one by the Merchants' House of Glasgow. Three are *ex officio*, viz. the Chairman of Trustees of the Clyde Navigation, of the Port and Harbour of Greenock, and that of Port Glasgow, respectively; and Sir Michael Shaw Stewart, Bart., and his heirs male, in the estate of Greenock. They are termed the Trustees of the Clyde Lighthouses. The qualification for an elector of, as well as for an "elective trustee," is that during the year previous to August 31 he shall have paid 2*l.* or upwards of rates under this Act; and also be resident within three miles of the city of Glasgow, the town of Greenock, or the town of Port Glasgow.

The Tyne Improvement Commission, dating back to 1850, is another example. It really means the "Port of Newcastle," extending from the sea to a point called "Hedwin Streams," a certain distance above Newcastle. The Tyne Improvement Commissioners are eighteen in number, four being nominated in the Act, six by the Council of Newcastle, two by that of Gateshead, three by that of Tynemouth and three by that of South Shields. The voter for the Commissioners to be, either (1) a shipowner of a vessel of at least 100 tons, and which has paid tonnage dues during the preceding year, entitling him to one vote for the first 100 tons, and to one vote for each additional 250 tons, up to a maximum of eighteen votes, or (2) a coal-owner, shipping coal during the past year, is entitled to one vote for the first 10,000 tons and to one vote for each additional 25,000 tons up to a maximum of eighteen votes, or (3) a trader paying dues, toll, &c. (other than on coal and coke) during the preceding year, is entitled to one vote for the first 10*l.* paid, and to one additional vote for each 25*l.* paid, up to a maximum of eighteen votes.

The Thames Conservancy Board, as reconstituted by the Act of 1894, consists of thirty-eight conservators, of whom the Admiralty nominates two, the Board of Trade two, the Trinity House two, the London County Council six, the Corporation of London six, the County Councils of Berks, Bucks, Essex, Herts, Kent, Gloucester and Wilts (together), Middlesex, Oxford and Surrey one each; also the Councils of Oxford, Reading, West Ham and the Metropolitan Water Board one each; likewise the shipowners elect three, the owners of sailing barges and steam tugs two, the dock-owners one and the wharfingers one.

The Metropolis Water Board, 1902, consists of a chairman, a vice-chairman and of the following nominated members:—Fourteen by the London County Council, two by the Corporation of London, two by the City of Westminster, one by each of the Metropolitan Borough Councils, one by each of the County Councils of Essex, Herts, Kent, Middlesex and Surrey, one each by the Thames Conservancy and by the Lee Conservancy, one each by the Urban councils of West Ham, East Ham, Leyton and Walthamstow, and one each from eight groups of urban and rural district councils situate Essex, Kent, Middlesex and Surrey respectively.

The Derwent Valley Water Board (1899) is an interesting example, as its constitution was the result of a long discussion in Parliament. Originally four distinct Bills were deposited by the Corporations of Derby, Leicester, Nottingham and Sheffield, each to obtain independent water rights over this Derbyshire river. But by the insistence of the House of Commons committee, under the chairmanship of Sir John Brunner, Bart., the claims of all of these Corporations were combined under one Board of thirteen members, constituted in the following proportions :—Derby Council three, Leicester four, Nottingham two, Sheffield three, and the Derby County Council one member.

In the above-quoted examples there may be found a large number of interests, differing widely in their character. It is interesting, therefore, to note the various ways in which they have been treated, so as to insure a commercial amount of satisfaction. It is to be hoped that these and other examples, which may perhaps be instanced in the discussion on the subject of the paper, may prove of value as suggesting a mode of reconciling the various and often conflicting interests which are found to occur, and which have to be dealt with in connection with the electric supply of the power Acts. The main object, of course, is to endeavour to secure a mutual confidence between the "suppliers" and all classes of the "supplied," so that all may feel that each interest is being treated with consideration, and in such a spirit of fairness that their united co-operation is enlisted in the development of the electric supply, so as to aid and insure to it the largest amount of success. And also that while doing this they may, each and all, endeavour to render the terms of the supply such as may be of national assistance in the competition with foreign countries.

INDIAN ARCHÆOLOGY.

THE Indian Government have obtained Mr. Morley's sanction to a scheme submitted in November last for the organisation of the Archæological Department on a permanent and improved footing. It is shown that although much has been done since a Director-General of Archæology was appointed in 1902 for a period of five years, the experience gained has proved that the task of restoring and conserving the antiquities of India will always require trained ability for its adequate discharge, while the vast area of the field and the great number and variety of the monuments to be dealt with render it improbable that any substantial reduction in the present staff will be feasible for many years to come. The present Director-General of Archæology is confirmed in his appointment. In lieu of the present Government epigraphist for Madras, the scheme provides for the appointment of a Government epigraphist for the whole of India, whose duty it will be to organise and collate the results of the epigraphical work of the provincial surveys. At the same time, the importance of Madras for this form of research and its special linguistic conditions necessitate the retention of a special epigraphical expert in that presidency. The number of archæological circles remains the same, but their names have been changed to render them more descriptive and appropriate. There is a new appointment of superintendent for the North-West Frontier Province and Baluchistan, where the work has hitherto been done by the Education Department. It is estimated that the work of restoring monuments of first-rate historical or architectural importance will be completed within the next fifteen or twenty years.

EVOLUTION OF LONDON COUNTY SCHOOLS.[*]

WHEN the London School Board began its building work, and before it appointed an architect of its own for the purpose, in consequence of the urgent need of more rapid provision of school accommodation, the planning and erection of the first thirty schools were entrusted to various architects. These schools, although handsome in elevation and in some cases built by architects of considerable reputation, were yet ill-adapted for teaching, partly because of the absence of general professional knowledge of the requirements of a good school, and partly because of the very meagre code of the then Education Department, the building rules being of a most elementary description, and such rules and illustrations as existed tending rather to perpetuate defects than to stimulate improvement. The staircases were long, steep and narrow. Cloak-rooms were either insufficient or altogether wanting. Teachers' rooms were practically unknown as contrasted with the present provision of both head teachers' and assistant teachers' rooms. The classrooms were subsequently found to be of unsuitable sizes, and the scholars sat for the most part with their backs to the windows. Most of the rooms were passage rooms one to another, and, in addition, the sites were small and playgrounds were very insufficient. In respect of these earlier schools the Education Department allowed a building loan of 10*l.* per child accommodated.

Of necessity, therefore, a great many of these earlier schools have since had to be improved, halls added, new staircases of a modern type built, and the schools properly equipped with cloak-rooms, lavatories, teachers' rooms, &c.

After the Board appointed its own architect, the earlier schools built by him showed no marked departure in planning from the previous types, but gradually a certain improvement was effected. The dominant idea, however, was still that of a schoolroom holding several classes, supplemented by a moderate number of classrooms. Corridors for reaching the end rooms were introduced, but these were also made to serve the purpose of cloak-rooms; they were far too narrow to insure safety in the event of fire or panic, and the hanging of cloaks in them was inconvenient and dangerous.

In 1883 the School Board began to recognise more especially the importance of left lighting, and with this object in view planned square classrooms for sixty children, with five rows of dual desks, arranged six deep, as compared with the former size, viz. 29 feet 4 inches by 22 feet. This arrangement was objected to by the Education Department on the ground that desks should not be more than five deep, but the Board adhered to their plans, which were tacitly accepted. From this time the improvement in school planning has been continuous.

About the year 1888 the late authority in view of the large and increasing amount expended yearly on maintenance account in pointing the exterior walls, &c., and in painting the internal walls, decided that the brickwork should be built in cement in lieu of lime mortar, and that the internal walls of staircases and corridors and dadoes of classrooms and halls should be faced with glazed bricks. In consideration of the increasing use made of the halls for drill and public meetings, a much heavier and more rigid type of floor construction than had hitherto obtained was adopted.

It was not until the year 1891 that the Education Department so far acknowledged the utility of a hall in a school as to grant a special loan for the purpose for every school. Previously the cost of the hall, when provided, had to be included within the before-mentioned loan limit of 10*l.* per child accommodated, unless an allowance was specially made. Consequently the cost was nearly always prohibitive, unless the hall was reckoned in the accommodation, or was of such restricted dimensions as to be more of a corridor than a hall. Since the Department allowed a loan of 1*l.* per foot floor space for the halls, the Board were able to provide them in every new school.

In 1891 the Board, which had for several years neglected the provision of drawing classrooms, determined to provide them, and many spacious and convenient rooms have been built over the halls for this purpose.

Another item in the cost of schools is the amount of decorative detail put into them. The policy of the late authority was almost always to give these structures, as public buildings, some dignity of appearance, and to make them ornaments rather than disfigurements to the neighbourhoods in which they were erected. Where in a few cases, striving after the sternest economy has led to very plain buildings being erected, as in the case of Trundley's Road (Deptford), Enfield Road (Hackney, Central), Ellerslie Road (Hammersmith), and one or two others, the resentment of those who contrasted the appearance of these with other schools in the neighbourhood led to a reversion to the more ornamental type.

It was found that the difference between the cost of buildings erected on utilitarian lines and those designed with some regard to materials, colour and style was about 5 per cent. At the same time this ornamental appearance has been secured either by richness of detail or by a dignified grouping of masses—in some few instances a greater amount of decorative work has been introduced into the buildings than has been permitted to continue after fuller experience of the cost involved.

In recent years, too, the cost of the offices and drainage generally has considerably increased under the stringent requirements of sanitary authorities. Where the ground is of a treacherous nature, it is customary to use iron soil drains; glazed tile divisions are provided between each water-closet in the ranges in lieu of woodwork, which is always subject to damage and requires periodical painting, &c. Further, single pans with separate water-waste preventers are provided in lieu of the trough and automatic flusher. The extra cost of these items on a school for 800 children of the ordinary type of building and site may be taken approximately as follows :—

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[*] From the Report of the Education Committee.

	£
(i.) Building in cement	350
(ii.) Glazed brick facings to staircases and corridors and dadoes of classrooms and halls . .	950
(iii.) Additional cost of solid floors of classrooms and additional strength and rigidity of hall floors	545
(iv.) Additional cost of iron soil drains, single pans and W.W.P., glazed divisions, &c. . .	750

representing about 3*l.* 5*s.* per place on these items alone.

It sometimes happens that in consequence of the restricted area of the site a playground has been arranged on the top of the school. This topmost floor comprises playground and science and art-rooms (to which latter exception has recently been taken in some cases by the Board of Education) and increases the cost of the building by about 3,400*l.*, equal to 4*l.* per place. Were the playground not so provided a larger area of land would be required on the level which would probably cost considerably more.

On several occasions the question of the cost of erecting schools was carefully considered by the late authority, the more important investigations being conducted in 1887-9, 1892, 1896, and the last in 1903. In 1887 a special committee was appointed to investigate and report upon the whole of the existing arrangements relating to the work of the works department of the late authority, and as a result of their report the late authority on February 14, 1889 (i.) adopted a new specification—the joint production of Mr. Ewan Christian and Mr. Thomas M. Rickman, the professional advisers called in for the purpose; (ii.) arranged for a more extended supervision over the construction of buildings; (iii.) introduced a more elaborate and expensive system of heating apparatus; (iv.) arranged for the brickwork to be built entirely in cement in lieu of mortar, and (v.) adopted glazed bricks to a very much larger extent than had formerly been the case.

In 1892 the late authority desired to ascertain whether it would be possible to obtain from outside architects any fresh ideas in the planning of its schools, and invited architects to enter into public competition, in accordance with the rules of the Royal Institute of British Architects, for the planning of a school for 1,200 children, capable of being erected on any ordinary site purchased by the Board, the President of the Institute being appointed assessor, and to draw up the terms and conditions of the competition. It was further decided that three premiums of 150*l.*, 100*l.* and 50*l.* respectively should be awarded, in the discretion of the assessor, to the architects whose plans were most successful.

The site finally selected was a vacant piece of ground in Fulham Palace Road, and the competition, besides being advertised in the daily and trade journals, was specially brought to the personal notice of a large number of architects. One hundred and twelve architects applied for the instructions, and sixty-one of them sent in designs which were afterwards publicly exhibited in the upper hall of the Hugh Myddelton school, Clerkenwell. The result of the competition was that the assessor, Mr. Macvicar Anderson, reported that it had not produced a novel treatment in respect of plan that had been deemed worthy of approval, and on April 26, 1894, a report was submitted stating that, as a result of the competition, it was gratifying to find that the schools had not only been erected upon what might be fairly considered the most approved plans, but that the cost appeared to be as moderate as seemed possible, judging from the estimates forwarded by the various competitors of the probable cost of the schools if erected according to the designs submitted by them.

In 1896 the subject was again the matter of careful investigation, and the late authority then decided, as an experiment in the case of the next six schools to be erected, to revert the old specification in force in 1885-6, subject to the specification being modified to meet the then requirements of the Board and the Education Department, it being arranged that in the building contracts the quantities should not form part of the contract.

Every detail of the specification was then examined, and after being tabulated, decisions were arrived at which became instructions for the description of the building of the schools.

The schools subsequently selected to be built under these special conditions were the following, the accommodation, cost, &c., being as stated in the subjoined table :—

County Electoral Area and Name of School.	Accommodation.	Date of Acceptance of Tender by late Authority.	Actual Cost.	Area of Site.	Cost a Place (Main Building Complete and Ready for Occupation, excluding Offices, Works on Site, Furniture).	Total Cost per Place (including Centres, but excluding Furniture, &c.).
			£ s. d.	sq. ft.	£ s. d.	£ s. d.
CLAPHAM. Cavendish Road . (Designed for future enlargement)	914	July 29, '97	22,400 18 7	87,120	13 7 1	24 10 2
LEWISHAM. Ennersdale Road . (Designed for future enlargement)	756	July 29, '97	16,105 3 4	63,480	14 18 6	21 6 1
GREENWICH. Royal Hill . . (Designed for future enlargement)	552	Feb. 10, '98	12,900 1 11	36,695	15 18 8	23 7 5
BETHNAL GREEN. Daniel Street . (Designed for future enlargement)	1,138	Mar.31, '98	23,682 13 10	50,610	14 18 1	20 16 3
BERMONDSEY. Paragon, The . (Designed for future enlargement)	1,111	May 12, '98	27,746 4 7	67,630	16 2 7	24 19 6
Oakfield Road* . (Complete school)	922	June 29,'99	19,794 19 6	35,425	14 7 2	21 9 5

* This school was subsequently transferred to the Penge education authority.

The last occasion on which this question was considered was in 1903, as a result of observations made by the chairman of the Croydon School Board at the public opening of the Portland Road school having accommodation for 1,310 children, to the effect that the cost of building (exclusive of site and furniture) had been 13*l.* 11*s.* 8*d.* a place, as against a cost of 28*l.* 10*s.* and 30*l.* 15*s.* 4*d.* in two London schools.

In order that a comparison might be made between two schools where the conditions of planning, &c., were as nearly as possible identical, the Invicta Road school, Westcombe Park (Greenwich), was taken as corresponding fairly in general arrangement and size with the Portland Road school, Croydon. The Invicta Road school, which was built in 1898, has 965 places and cost 20*l.* 7*s.* 4*d.* a place. The graded portion of both schools consists of a two-storey building, the infants being accommodated in a separate one-storey building. A comparison was made, item by item, of the various branches of the work done at these schools, and a very full examination was made of materials, quantities and prices. The sub-committee which then reported arrived at the conclusion that the facts before them showed "that having regard to the accommodation provided and the character of that accommodation, and the conditions under which the London School Board are required to work, the London Board have had their work done quite as cheaply at Invicta Road as the Croydon Board at their Portland Road school." It was ascertained that the cost of the school buildings complete, excluding offices, works on site, furniture, &c., amounted to 14,806*l.* for the Invicta Road school and 14,491*l.* for the Croydon school.

In the course of the inquiry it was ascertained that it was cheaper to build a school in two separate blocks, consisting of a two-floor building for the graded school and a one-floor building for the infants' department, than in a single block of three or four floors, and in planning new L.C.C. elementary schools this practice is adopted wherever the site is of sufficient size for the purpose. This was accounted for by the fact that, although in the case of a three-storey building there is a saving in having to provide only one roof, this saving is more than counterbalanced by the additional cost of the greater thickness of brickwork required for the walls, the extra cost of the scaffolding to the upper floors, and the cost of hoisting joists and girders to a great height, &c. This fact compelled the Board to scrutinise carefully its system of planning, which, owing to most of the schools being built in the heart of London, has been predominantly one involving three-storey structures. It should be stated that it was the practice of the late authority when securing vacant sites in outlying districts to acquire sites having an area of about two acres. The following shows the relative cost of erecting (i.) a three-storey building compared with (ii.) three one-storey buildings (boys, girls and infants) and (iii.) two-storey buildings (boys and girls) and a one-storey building for infants :—

(i.) Three-storey building of ordinary type, Broadwater Road, Wandsworth (accommodation 920). Total estimated cost including works to site, offices, &c., but excluding furniture, &c., 20,948*l.*, equivalent to 22*l.* 15*s.* 4*d.* a place.

(ii.) Three one-storey buildings, Deansfield Road, Woolwich (accommodation 1,202). Total estimated cost including works to site, offices, &c., but excluding furniture, &c., 21,953*l.*, equivalent to 18*l.* 5*s.* 3*d.* a place.

(iii.) Two-storey building and a one-storey building, the Wandle, Wandsworth (accommodation 1,140). Total estimated cost including works to site, offices, &c., but excluding furniture, &c., 23,337*l.*, equivalent to 20*l.* 9*s.* 5*d.* a place.

We now pass to the result of our investigations into the cost of erecting schools in London, as compared with the cost of schools recently built under the jurisdiction of education authorities whose areas are contiguous to London. In this connection we have consulted the County Councils of Surrey, Middlesex and Kent, the boroughs of Hornsey, Wimbledon and East Ham, the county boroughs of Croydon and West Ham, and the Urban District Councils of Willesden and Chiswick. From the information which these authorities were good enough to furnish, we were of opinion that the schools erected under the jurisdiction of the Croydon, Willesden and Hornsey authorities were the most suitable to select for purposes of comparison, and some of our members have visited, in company with several members of the Council interested in the construction of schools, the latest schools built under the direction of these authorities. The subjoined statement shows the accommodation and cost of the schools that were inspected :—

Name of Educational Authority.	Name of School.	Total accommodation.	Date of completion.	Total cost, including furniture, supervision, architect's charges, &c.	Total cost per place.
				£ s. d.	£ s. d.
Croydon .	Ingram Road .	1,166	1904	17,110 0 0	14 13 6
	Portland Road .	1,310	1901	18,439 0 0	14 1 6
Hornsey .	Mattison Road .	900	1903-4	23,009 5 0 (excluding special instruction school)	25 11 3
	Pemberton Road . Higher Elementary school	340	1903-4	16,221 12 10	47 14 2
Willesden	Chamberlayne Wood Road	1,224	1902-3	19,000 0 0 (excluding centres and special buildings)	15 10 6
	Salusbury Road .	1,260	1901-2	19,695 0 0 (excluding centres, &c.).	15 12 8

We found that the Croydon schools afforded all the requisite accommodation and presented many good points in comparison with the Council's schools.

In the Croydon schools the general arrangement of the roofs and gutters was suggestive of a country school rather than a town school, and were correspondingly cheaper; in the staircases and corridors the glazed brickwork was carried only to the height of the dado, while in the Council's schools it is carried the whole height of the wall. The dipped bricks used for the dados in the Croydon schools, though of a specially cheap make, are more expensive than the soft glazed bricks used in the Council's schools, but there was nothing in the Croydon schools corresponding to some of the corridors at Bonneville Road school (Clapham), which are built in white glazed bricks from floor to ceiling. The covered playgrounds were small.

On the whole, we have arrived at the conclusion that we should not like to exchange any of the recently erected London schools for one of the Croydon schools, though something may be learned from Croydon in connection with the cheapening of the design of the roofs and in the more restricted employment of glazed bricks, and we intend to take advantage of the information gained on these points.

As regards the schools in Hornsey, the ordinary graded school at Mattison Road consists of a two-storey building for the senior school and a one-storey building for the infants. The woodwork was prominent and expensive, and a good deal of the cost of the roof of the hall in the senior school lay in detail. The manual training-room was palatial as compared with the rooms which have been specially constructed by the Council or by the late authority.

In the laundry the washing was carried out in fixed wooden tubs with water-supply and waste. The kitchen was well designed, with the scullery forming an open annexe, but there was only one kitchen range and no fireplace similar to that to be found in an artisan cottage. The swimming-bath was about 40 feet long, which was too short for the requirements, inasmuch as it involved a somewhat dangerously steep floor. The gallery was provided with dressing-boxes.

Throughout the ground floor of the building, comprising the swimming-bath and domestic economy centre, there was a profusion of glazed bricks, and the 22-inch walls were unnecessarily heavy.

The housewifery department consisted of a well-furnished sitting-room, bedroom and kitchen with scullery attached.

We are of opinion that the Council would not secure economy by following the example of the Hornsey local authority in any particular, except perhaps that simple tiled roofs with eaves gutters are less expensive than lofty parapets.

The higher elementary school at Pemberton Road, Hornsey, was organised as a secondary school for 340 children under sixteen years of age. The accommodation included a good room for the head master, classrooms, a hall about half the size necessary for a secondary school and incommoded by a row of iron columns, a chemical laboratory for twenty-four, an experimental science laboratory for twenty-four, a balance-room, a preparation-room, a demonstration theatre and a good art-room, with special wall-fittings made to the design of the head master. There was, however, no dining-room, kitchen, common-room, library or gymnasium, so that the building fell considerably short of the accommodation generally provided in a secondary school.

The brickwork was carried out in lime mortar with a profusion of glazed bricks, and in particular two 14-inch longitudinal walls were carried right through the building on both upper floors, one on each side of the corridor, the weight of one of these walls on the first floor necessitating the columns in the hall above referred to.

As regards the two schools we visited at Willesden, the Salusbury Road school comprises an infants' department and a mixed department. The Chamberlayne Wood Road school is organised as infants, girls and boys. The former school has an infants' hall on the ground floor and a hall for the mixed department, extending through two storeys with a gallery. The latter school has a hall for each department. Both schools were planned very much on the lines of the majority of the three-storey buildings recently erected in London, but in neither school was there any provision for science or drawing, the buildings comprising only the halls, classrooms, rooms for the head and assistant teachers and cloak-rooms.

The first point that was noticed was the economy observed in the erection of the playing sheds. These were supported on slender iron columns, the roof being carried by a timber plate and covered with zinc. In the staircases and lobbies there is a glazed brick dado surmounted by plain distempered brickwork. As in the case of some of the London schools, economy was effected by providing no fireplaces except in the babies' rooms.

With the exception of the roof principals of the two-storey hall in Salusbury Road school the joinery was of the simplest possible character.

Except, perhaps, in the arrangement by which a store-room was provided in a mezzanine above the ground floor corridor, and in the cheaper construction of the sheds in the playground, it did not appear that the schools exhibited any points which should be imitated in the Council's schools. Generally speaking they appear to have been carried out on the same lines as the Council's schools with the practice of certain small economies.

The plans and specifications of two schools built under the supervision of the Chiswick and West Ham local authorities were also kindly lent to us, and after a careful perusal of the specifications and a full examination of the drawings as to plan, &c., we have arrived at the conclusion that very little difference, if any, exists—indeed, in one or two cases the specifications involve work of a more costly nature than that adopted in the Council's schools.

(*To be concluded.*)

ARCHITECTURE IN SCOTTISH ART SCHOOLS.

IN his report to the Governors of Robert Gordon's College in Aberdeen on the art school in connection with the institution, Dr. Rowand Anderson adds some general remarks on the subject of architectural education in the art schools in Scotland. "The art schools in Scotland (I refer chiefly to architectural education) will," he says, "never do their work thoroughly unless pupils come to them better educated and prepared than at present. No apprentice should be taken under sixteen years of age, and must possess an intermediate leaving certificate. It should be made a condition in all indentures that the apprentice must attend the art classes from the beginning of his apprenticeship. Representations should be made to architectural societies to adopt resolutions embodying these suggestions, and, from what I learned in Glasgow and Aberdeen, I believe architects would readily fall in with such arrangements. While I advocate the concentration of art teaching in one central art school, the Heriot-Watt College and all other technical schools must still carry on drawing classes, as any engineer or man of science cannot be considered completely educated unless he is a good draughtsman."

TESSERÆ.

Modelling in Clay and Wax.

FOR modelling clay, stucco, plaster and wax were used. Works of great antiquity formed of these substances are still preserved in the different museums of art. Models in clay were usually dried and then baked in an oven, by which they became as hard as stone, and were very durable, as they were unaffected by atmospheric changes. Moulds were then made by a similar process, into which soft clay could be pressed, and objects were thus multiplied with facility. Clay thus treated is called terra-cotta. The ancients must have used it extensively, as may be seen from the countless number of figures and reliefs, lamps, architectural ornaments, vases, domestic utensils, stamps and other objects which exist, and are still constantly being found in this material. Usually such works are of small size, but there are some statues in the museum at Naples which prove it was also used for statues of large dimensions. There are two figures there especially deserving attention, of Jupiter and Juno of full life size; also two others about 4 feet high with masks, representing an actor and an actress, which probably formed the decoration of a theatre. The specimens in England of ancient terra-cottas are for the most part of small size. They are chiefly reliefs. Some of those in the British Museum are, however, extremely interesting, both for subject and execution. As such works were usually, if not always, designed for architectural decoration, it is probable that they were painted. They were first washed with a thin coating of stucco, and the colour was then laid on with a brush, the preservation of the original surface evidently not being considered of importance. This at least appears to have been the process, judging from several remaining specimens. The employment of wax for modelling and casting is very ancient. Roman families of distinction preserved a collection of statues and busts of their ancestors, which, on particular occasions, were carried in procession at certain festivals or ceremonies; these were sometimes dressed in real drapery. Pliny (xxxv. 2) alludes to this employment of figures of wax. Plaster or stucco is found in the ornamental parts of buildings. At Pompeii there were some few years ago two stucco bassi-relievi of considerable size and of good design on the outer walls of a small inner temple in the court of the Temple of Isis. The material was extremely hard and the colour a creamy white. We possess several specimens of the stuccowork of the ancients in the British Museum. They exhibit great delicacy and sharpness of execution. Many are painted, red being the prevailing colour.

Sir T. Lawrence's Heads.

In Lawrence's works we in vain search for breadth and harmony in the flesh. His heads have not the roundness of nature by reason of the harsh tones of his half-tints; the touches of colour are always perceptible and traceable to their beginnings and endings. It must be conceded that he laboured hard to produce a good work, but he was always travelling without keeping his eye on nature; he did not attempt to make his paintings beautiful by copying the effect of nature on his sitter before him; but his constant aim seems to have been the producing of a certain manner and effect, preconceived in his mind. His method of painting was as follows:—Every feature he carefully outlined in chalk, the lines of which he afterwards went over with the local colours; he was accustomed to paint one eye at a time, then the nose, then the mouth; and perhaps by the time he had gone so far the eyes displeased him, then he outpainted them; the same of the mouth, thus continually painting and repainting. Now all this labour is laudable enough were it directed to the proper point—at the same time painting every part as smooth as possible and keeping the half-tints very low. Then came the finishing; he had a very large palette, a huge bundle of brushes, oils, &c., at hand; then taking his brush he would dab on his tints in lumps of such a tone as united not in the least with the smooth polished surface beneath, and this he called giving the work spirit. A touch of decided light he would put on the eye most in shade to bring it out; a dab of decided white served for the collars. Who will say that this is to be found in nature? When all his paintings were properly hung at the Royal Academy, he repeated on varnishing days this operation of giving "spirit" to his works. We may well, indeed, ask, where all this time was his sitter? Was he not then painting his own "fitful fancies," unmindful of nature? Was he not more anxious to paint up to an exhibition key, and to surpass his contemporaries in meretriciousness rather than to the simplicity and soberness of nature? It was not by such tricks that Reynolds painted; there were no public exhibitions when Vandyke produced his "Gevartius," now in the National Gallery. Both the latter artists copied what was before them, and they were never misled.

Monument of a Boy.

Among the tombs in Elford Church, Staffordshire, is that of a child of the Stanley family, who was killed by a blow from a tennis ball. He is holding the ball in his left hand, and his right is pointing to the place where the fatal blow was received—behind his right ear. The legend once there was *Ubi dolor ibi digitus.* The head of the child rests on an oblong cushion, the hair is worked in small short curls, the body is habited in a sleeved tunic reaching to the ankles, and the lower half opened in front, similar to the first and second Edwardian period; beneath is an under garment with close sleeves to the wrist. On the feet are boots buttoned above the instep; the feet rest on a spaniel dog. The remains of colour on the more protected parts were: the cushion red, with some slight indication of gilding; the hair, boots and dog reddish brown; the face and hands flesh colour; the ball blue; the tunic crimson with gilt border and lined with green; the under-sleeves white; the buttons on shoes gilt. The date of this is said to be 1460.

Correspondence

R.I.B.A. Fellowship Elections.

SIR,—Will you kindly allow me to reply through your columns to the numerous inquiries we have received on the question of demanding a poll for the current list of candidates?

We have no desire to recede from the position we have consistently held, and we find that the resentment against these elections exists as strongly as ever, especially just now among the Birmingham men. But in view of the great anxiety expressed in the recent speeches at Conduit Street, and of the appearance in this list of the names of men who will be an acquisition to the Institute, we in Leeds have decided, rather than give the slightest ground for the charge of fractiousness which has been so freely made, not to demand a poll on the present occasion.

We have been actuated throughout solely by a desire to maintain the honour of the Institute, and we drew up a courteous memorial expressing our views which was duly presented to the election procedure committee.

We hoped that in common fairness, and following several recent precedents, this memorial would be placed before members in the Journal as publicly as the statements made by the other side. But as it has not been published, nor even acknowledged, we shall be grateful if you will give it the greater publicity of your columns. I may say it was carefully held back to avoid drawing attention from the Council's proposals on registration.

Fredk. Musto,
Secretary of Leeds Associates' Meeting.
Greek Street Chambers : May 29, 1906.

To the Chairman and Members of the R.I.B.A. Committee on Election Procedure.

Gentlemen,—The undersigned Associates, desiring to approach your committee with respect and in due constitutional form, and being denied the opportunity of taking part in its deliberations, venture to place their views before your committee in the present memorial, submitting :—

(*a*) That the reasons which led to the recent demand for a poll and its result have been misunderstood or wrongly stated by members of the committee.

(*b*) That any attempt to revise the procedure of elections generally, which omitted to inquire into the legitimate grounds of complaint, would render the position worse than before.

(*c*) That the decisive nature of the recent voting indicated a strong feeling of dissatisfaction throughout the country, which deserves the fullest recognition and respect of your committee, and should convince them of the necessity for full investigation.

Your memorialists therefore earnestly request the serious attention of your committee to these facts, and to the following observations in relation thereto.

Firstly, as to the reason for the demand for a poll. It is an undoubted fact that as a consequence of the second esolution passed on February 29, 1904, candidates of relaively insignificant professional standing have been nominated by the Council and duly elected to the Fellowship. Protests have been made from time to time, both at meetings of the Institute and in the press, against this interpretation f the resolution, but they have been unavailing, and the ecent demands for a poll were avowedly made with the bject of calling the attention of the Council in an emphatic nd perfectly regular manner to the dissatisfaction which xists throughout a large proportion of the membership. The voting papers were perfectly clear in their wording, ollowing the form prescribed in the regulations, and the ignificance of the voting is unmistakable. The statement hat your memorialists desire to exclude without exception very candidate who shall not have passed the qualifying exmination is incorrect and unfounded. But they respectfully ubmit that exceptions should be made only in the cases of utstanding prominence and recognised professional disnction, and after a searching investigation of which the esult should be voted on by a ballot of all members.

In this way the Fellowship of the Institute would become n honourable distinction conferred by the general assent f brother professionals, with full opportunity for the xercise of discrimination.

The committee may confidently rely on the discriminaon of members in this matter, as they cordially welcome he candidature of men of distinction. In the case of the ecent election of leading architects who had attained minence in the profession, it was generally felt that the nstitute was honouring itself as well as the candidates.

But it cannot be established that the election of large roups of candidates recommended by the Council on the ole grounds of the practice qualification and the short time emaining before the closing of the door is likely to add ignity to the Institute, or to confer any real distinction on he candidates themselves. The nomination of men who ave neglected or failed to qualify as Associates, or of those who have practised mainly as engineers and surveyors with ery little architectural capacity, has roused the opposition f members who would otherwise have accepted the situaon and waited for the new by-law to come into force.

Secondly, as to remedial measures. The prevailing eling among members in regard to election to the Fellowhip is undoubtedly correctly reflected in the first resoluon passed on February 29, 1904, and adopted on June 6 as by-law.

Since the institution of the compulsory examinations the umber of men who have thereby qualified as Associates as steadily increased. They have been actuated by a pirit of *esprit de corps*, by a desire for honourable memberhip of the Institute and by the encouragement of presients and leaders of the Institute and the provincial societies; they have felt the educational value to themselves, and have not grudged the expenditure of valuable time and the considerable outlay in preparation in fees and in subscriptions. But they have not expected to find that others of no greater experience and training, and even some who have failed where they themselves had succeeded, were being elected over their heads to the rank of the Fellowship. Your memorialists humbly submit that without some reform in this direction no mere alteration in the details of polling is likely to relieve the present tension. If it be urged that the elections which are the subject of this memorial have taken place with due observance of by-laws and regulations and with the tacit consent of your memorialists themselves, it must be pointed out that more than 50 per cent. of the members reside and practice in provincial towns, and have therefore usually no opportunity of taking part in elections and business meetings. On this account we strongly urge that on all occasions when a vote of the membership is taken the procedure should be by ballot. On our side, however, no opposition would be offered to a proposal to reduce the majority of votes necessary to election. If the entrance were in other respects more rigidly safeguarded a bare majority would appear sufficient, as in the case with election by show of hands.

Further, it may be said that the interests of the Associates membership are protected by the presence upon the Council of their four elected representatives. Your memorialists submit that this measure of representation is entirely inadequate, and is further discounted by the fact that, so far as they are aware, no effort has ever been made by an Associate member of the Council to systematically inform himself of the views of the class he is supposed to represent. Under these circumstances the representation becomes merely nominal, without weight in the deliberations of the Council. Your memorialists appeal for more adequate and effective representation, and beg to urge that they should be allowed to nominate their own candidates for the Council, instead of the nomination paper requiring a majority of Fellows in favour of the nominee.

For convenience of reference the points submitted in this memorial may be summarised as follows :—

1. That your committee should give careful consideration to the circumstances which led up to the recent demand for a poll and its results, so that incidental matters may be regarded in their proper light.
2. That the report of your committee should contain an indication of its views as to the respective status of Fellows and Associates, and matters pertaining thereto which have been referred to in this memorial.
3. That by some modification of the special examination, which would attach the same importance to actual architectural work as to abstract knowledge, means should be provided and recognised by which candidates may be elected as Associates who, on account of age and busy practice, are reluctant to sit for the ordinary examination.
4. That the dignity of the Institute would be augmented if the Fellowship were reserved for distinguished men of high personal achievement, and if the present policy were abandoned.
5. That all voting on questions of policy and of membership be by a poll of the whole electorate. An inexpensive method would not be difficult to devise, which would make use of a detachable portion of the Journal insets.
6. That the representation of the Associate membership upon the Council should be increased, and measures taken to make it more truly representative.

In conclusion, your memorialists entirely disclaim the hostility and organised opposition to the Council with which they have been credited; they would, if allowed, have been glad to be represented before your committee, with the hope of getting due consideration given to their views. Your memorialists are actuated solely by a conscientious desire to remedy the grave dissatisfaction which undoubtedly exists, and to promote a much-needed reform in the procedure connected with the Fellowship of the Institute.

The Hawick Archæological Society have resolved to convey their museum, which is at present housed in the Buccleuch Memorial Science and Art Institute, to the Town Council on behalf of the public. The Town Council have agreed to provide suitable accommodation in the mansionhouse in Wilton Lodge Public Park, and they will also bear the expense of removal, while the Archæological Society from their funds will give a donation not exceeding 450*l*.

GENERAL.

Mr. R. Lloyd Jones, surveyor to the Barmouth Council, has tendered his resignation on the ground that the Council had refused to pay him out-of-pocket expenses for extra work done with the waterworks. The resignation has been accepted upon a month's notice being given.

Mr. Augustus St. Gaudens will design the statue of Thomas Jefferson to be erected in Washington by authority of Congress. The statue will cost 20,000*l.*

Professor Hubert von Herkomer, C.V.O., R.A., and Mr. Alfred East, A.R.A., have been elected members of the Royal Society of British Artists.

The Historic Puritan Plate which recently belonged to Yarmouth Congregational church, and was announced to be sold at Christie's, has been withdrawn. The sale of this unique seventeenth-century Communion plate to a London dealer has excited much feeling and controversy in Yarmouth and elsewhere.

The Plans have been completed and details arranged for the new National Museum building, which is to be erected in the Mall, Washington, U.S.A. It is to be three storeys high, 570 feet by 320 feet, and is to cost 2,500,000 dols.

M. Tesson, the secretary of the Commission of Old Paris, has ascertained that the statue in the church of St. Julien le Pauvre, Paris, of Montyon, who founded the famous prize for philanthropy, is no more than a portrait of a model, who received 8*l.* for posing.

A Hotel is to be erected in Cape Town by Mr. J. D. Logan at a cost of 120,000*l.* It will be called "The Selborne" and steel framing will be employed in the construction.

The Statue of Alexandre Dumas fils in the Place Malesherbes, Paris, by M. de Saint-Marceaux, will be unveiled on June 12.

Mr. William Atkinson having retired from the firm of Messrs. Welch & Atkinson, surveyors, 10 Lancaster Place, Strand, W.C., the business will be continued at that address under the old name by Mr. George Stephenson, for many years member of the firm.

Mr. Claude Batley, architect, Kettering, has been awarded first place among ninety-nine competitors for designs for the Carnegie library in Old Kent Road, London. The design by Messrs. Grant & Bowden was awarded second place, and that by Messrs. Springall & Taylor third. Mr. A. W. S. Cross acted as the Council's assessor.

The Professorship of Civil Engineering in the Queen's College, Cork, will become vacant on October 6. Particulars may be obtained from the President of the College.

The Pedestal supporting the easternmost statue on the north side of Westminster Abbey fell to the pathway across the Abbey Green on Monday. Nobody, fortunately, was hurt.

The National Gallery in Edinburgh has been enriched by two pictures lately presented to the nation. One of these is a portrait of Lady Shand painted by the late Robert Herdman, R.S.A., in 1867. The other picture, *Mischief*, is an imaginative work by the late G. F. Watts, R.A., which has been presented by his executors under the scheme sanctioned by the Court of Chancery, in accordance with Mr. Watts's wishes verbally expressed. The picture is dated 1878.

The Fifteenth-Century Preaching Cross in the churchyard of Wookey Church, Somerset, has been restored as a votive offering.

The Derbyshire Archæological and Natural History Society opened their annual congress on Friday with an excursion to Repton. The twenty-eighth annual report of the Society refers to the success which attended the intervention of the Society to preserve the picturesque Elizabethan Grammar School at Ashbourne. Winster Market House has been satisfactorily repaired, and is now safely vested in the national trust.

An Inquiry is to be held in connection with the application for a faculty for the building of the nave of the Hexham Abbey Church. No commencement has been made in regard to the removal of the present police stables, although the sum stipulated by the County Council has been paid to that authority. The removal of this block of building is necessary before a beginning can be made with the building of the nave.

Mr. F. Cayley Robinson has been elected member of the Institute of Oil-Painters, Piccadilly.

Dr. Thomas Ashby has been appointed director of the British School in Rome. He has been assistant director, and has superintended various excavations.

A Public Meeting was held in Bedford under the chairmanship of Viscount Peel, when it was unanimously decided to establish a museum for the county. A committee was appointed to take the initial steps, and the hope was expressed that the museum would really be confined to the county, and not become a general collection of curiosities.

The Scottish Education Department have announced to the Edinburgh Town Council that they are disposed to favourably consider an application by the Town Council for funds for the proposed art school for Edinburgh. The Department would like to know, however, as soon as possible, what the Corporation propose doing to carry on the school in the meantime, and what they suggest for temporary school premises, and particularly when they will be in a position to say anything about the provisional committee it is proposed to form to carry on the school. Dr. Struthers, it is stated, will be in Edinburgh in the beginning of June, and will be glad then to consult with the Council's committee should they so desire it.

A Stained-Glass Window has been opened in Tewkesbury Abbey, of which the inscription records:—"To perpetuate the memory of a true master builder, five times Mayor of Tewkesbury, honorary freeman of the borough, always zealous in preserving the ancient beauty of his native town, the builder of numerous churches and the restorer of this venerable abbey, the friends of Thomas Collins, J.P., born August 26, 1819, died January 3, 1900, have placed this tablet here and a stained-glass window in the western side of this transept in the church he loved." Cut in the alabaster border itself at the base are the words, "A workman needeth not to be ashamed."

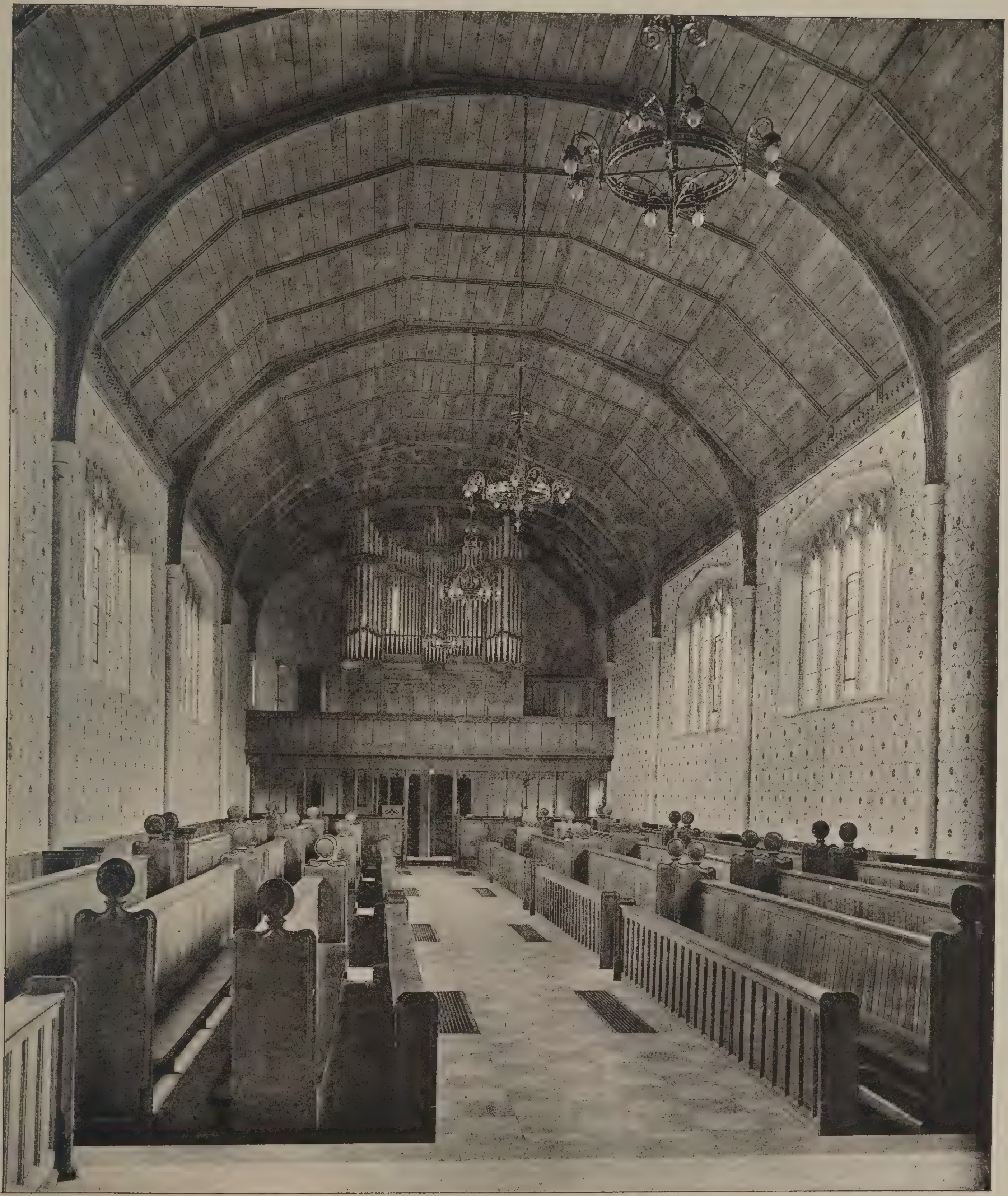
The Cape Town municipal authorities passed plans for new buildings in the city to the value of 22,000*l.* between February 10 and March 31. During the same period plans for new buildings to the value of 185,970*l.* were examined and rejected.

The Committee of Kirkintilloch Conservative Association who recently invited designs for premises have selected from the thirty-one designs submitted in competition that of Mr. Wm. Baillie, architect, 223 Hope Street, Glasgow. The building, which is to be of three storeys with basement, will cost about 2,000*l.*

The Sixteenth Exhibition of Pictures will be held at the Borough Polytechnic Institute, Borough Road, S.E., from May 26 to June 17. Among the pictures are works by Turner and David Cox, Sir Edward Poynter, Bart., P.R.A., Sir James Linton, R.I., Alfred East, R.A., J. MacWhirter, R.A., David Murray, R.A., G. Clausen, A.R.A., J. Farquharson, A.R.A., G. A. Storey, A.R.A., Edward Stott, A.R.A., Hon. John Collier and other well-known painters.

The Corporation of the City of London has presented to the Society of Architects a complete set of the commemorative medals which it has struck from time to time during the last seventy-five years. The medals, of which the following is a list, will be placed in the Society's reading room:—1831 London Bridge, 1831 London Bridge, 1832 Reform Bill, 1834 City of London School, 1837 Queen's Visit, 1849 Coal Exchange, 1855 Emperor of the French, 1855 King of Sardinia, 1863 Princess of Wales, 1867 Sultan of Turkey, 1869 Blackfriars Bridge, 1872 Thanksgiving, 1873 Shah of Persia, 1874 Emperor of Russia, 1878 Temple Bar, 1880 King of the Hellenes, 1882 Epping Forest, 1882 New City of London School, 1884 New Council Chamber, 1885 Prince Albert Victor, 1886 Colonial and Indian Reception, 1887 Queen Victoria's Jubilee, 1889 700th Anniversary of the Mayoralty, 1891 Emperor of Germany, 1893 Duke and Duchess of York, 1893 King of Denmark, 1894 Tower Bridge, Queen's Diamond Jubilee, City Imperial Volunteers, King and Queen's Visit.

St. John's Church, Sleekburn, was consecrated by the Bishop of Newcastle on Saturday. The church is of brick with local stone dressings. The two aisles are divided from the nave by seven stone arches. The early Perpendicular west window has seven lights and the east window three. The mosaic pavement with marble steps to the chancel was supplied by Messrs. Emley & Sons, Ltd., Newcastle-on-Tyne. The plans for the church were prepared by Mr. Arthur B. Plummer and carried out by Mr. T. Goulding, contractor.



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MASONIC INSTITUTION FOR BOYS, BUSHEY, HERTS: CHAPEL, WEST END.

Messrs. GORDON & GUNTON, Architects.

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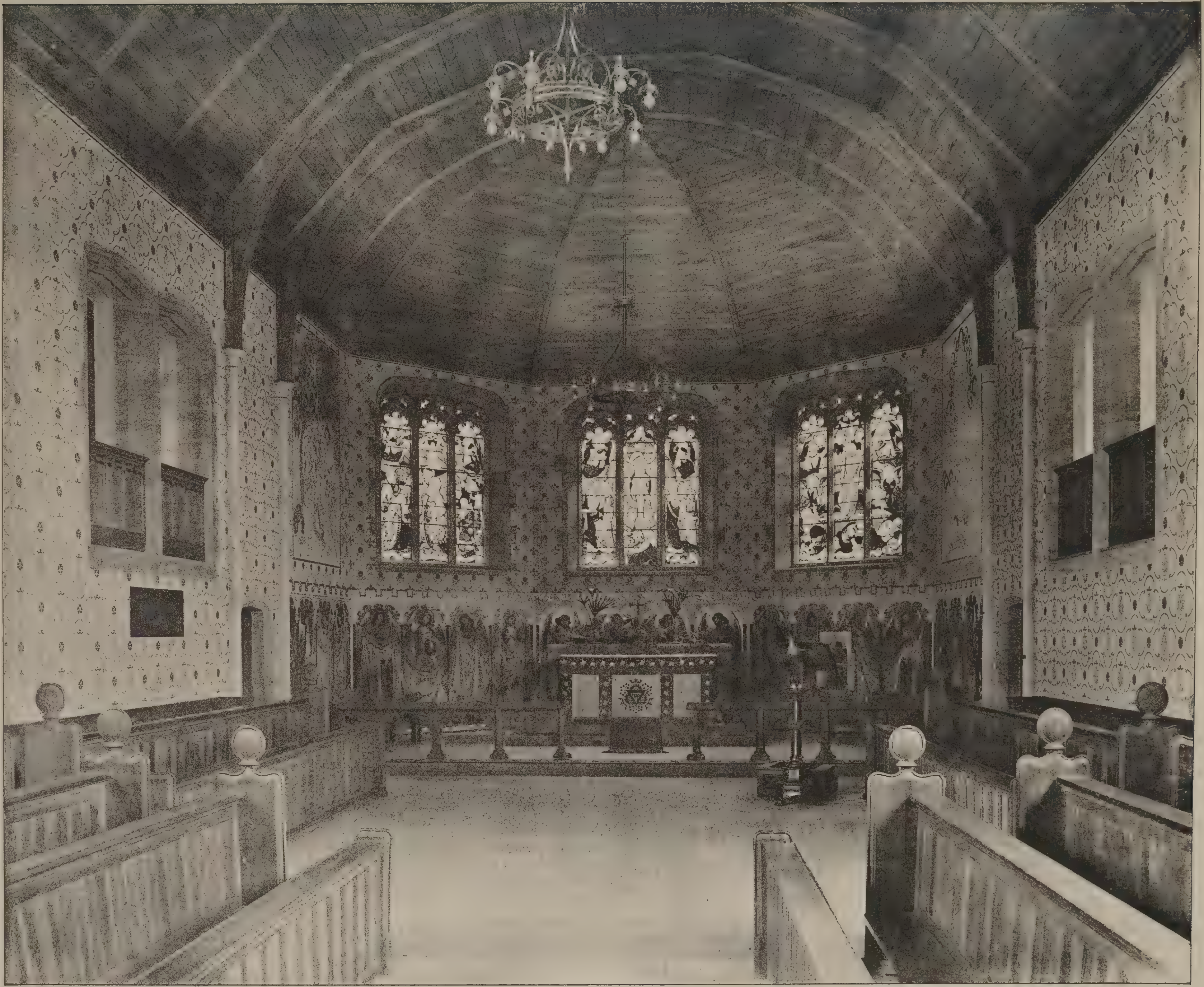

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MASONIC INSTITUTION FOR BOYS, BUSHEY, HERTS: CHAPEL ALTAR.

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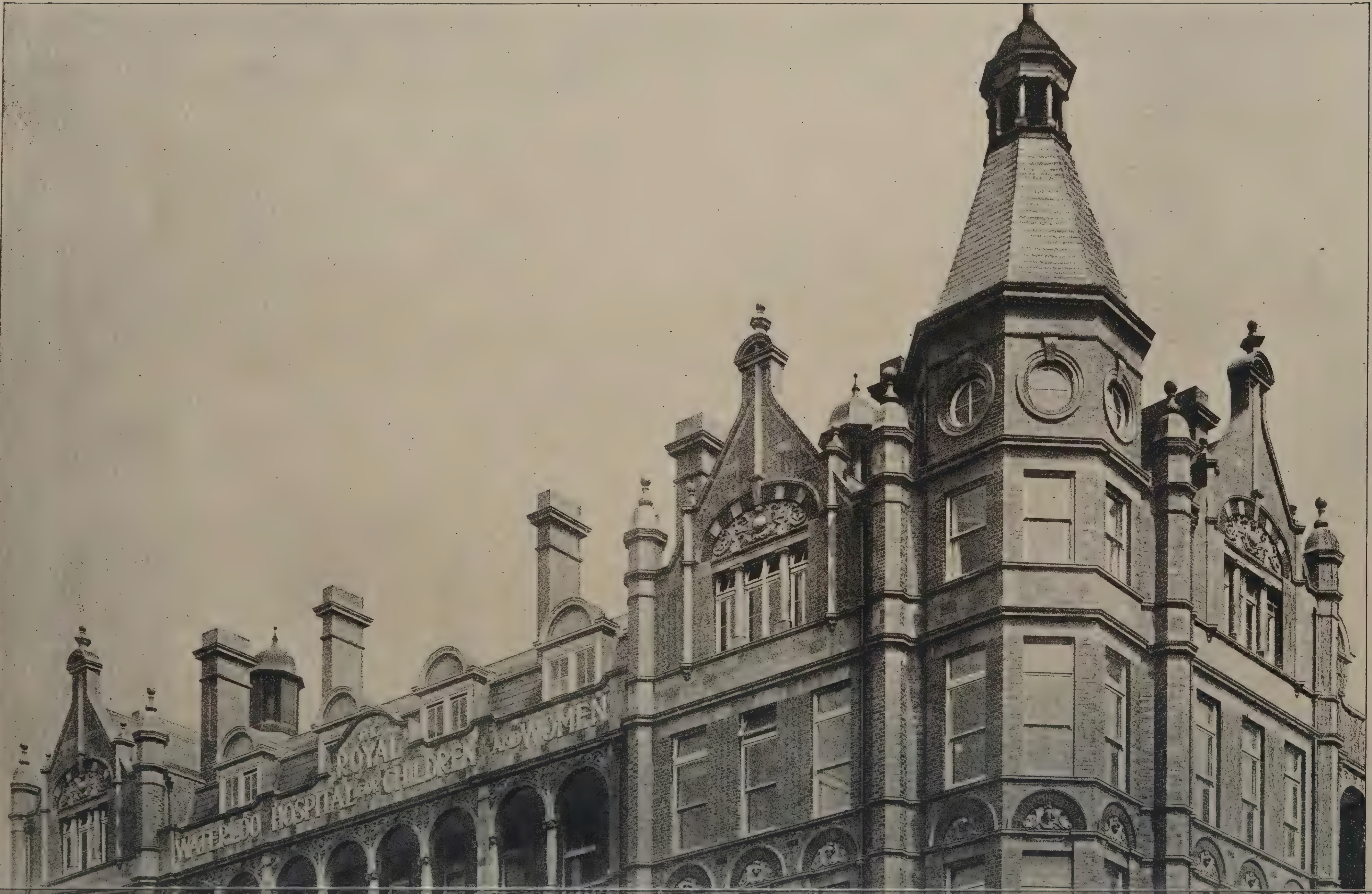
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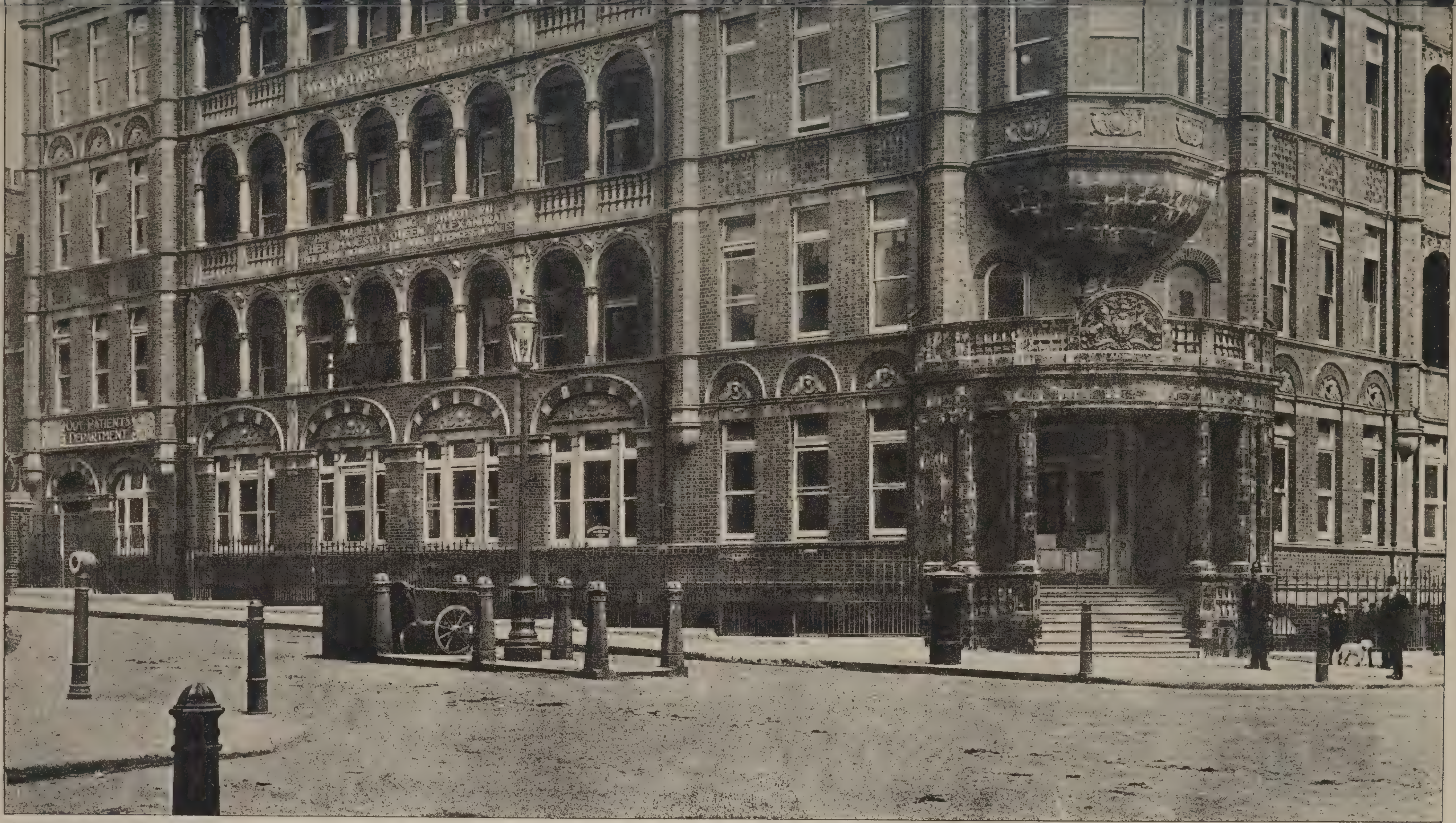

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THE ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, WATERLOO BRIDGE ROAD, S.E.

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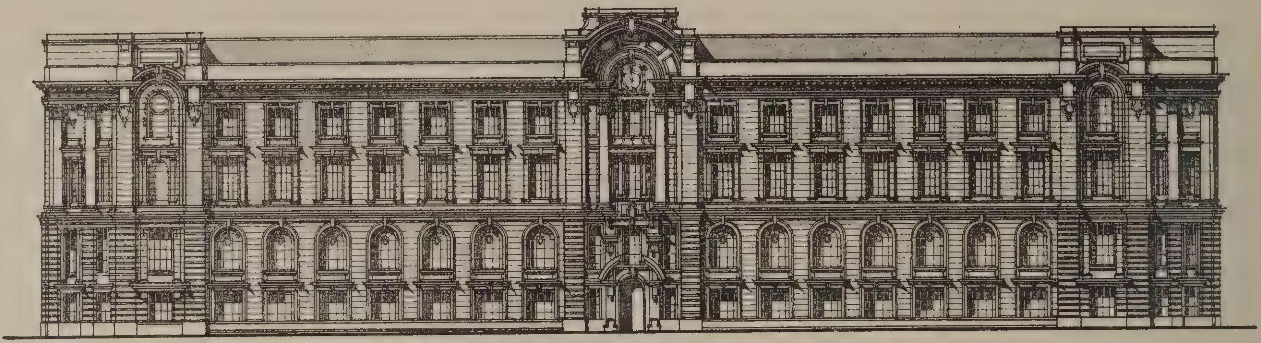

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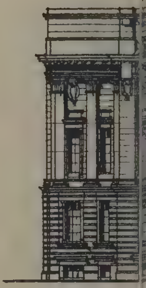

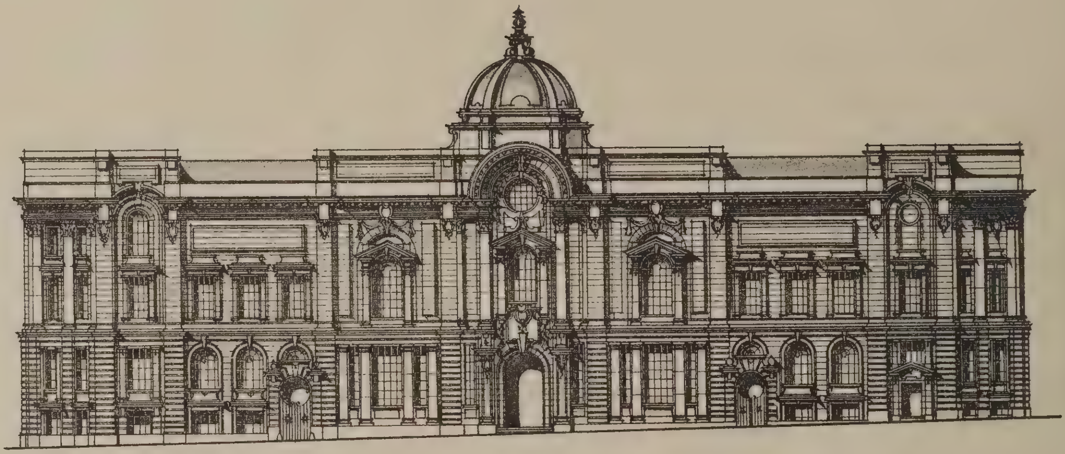

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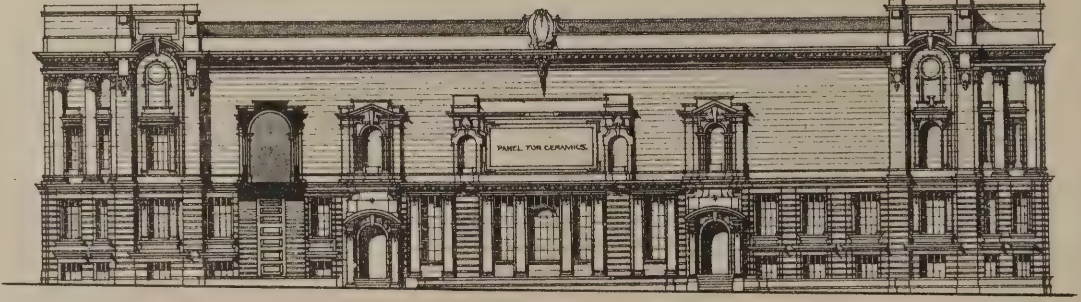

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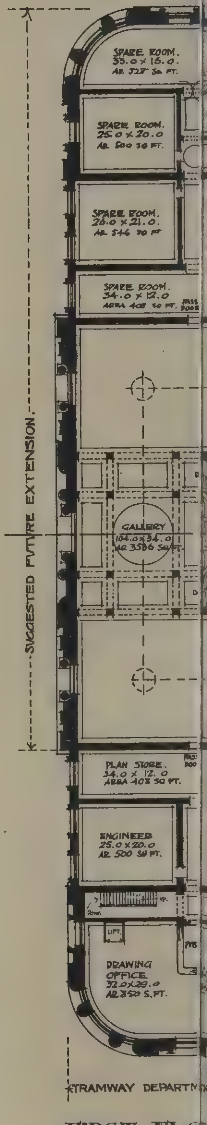

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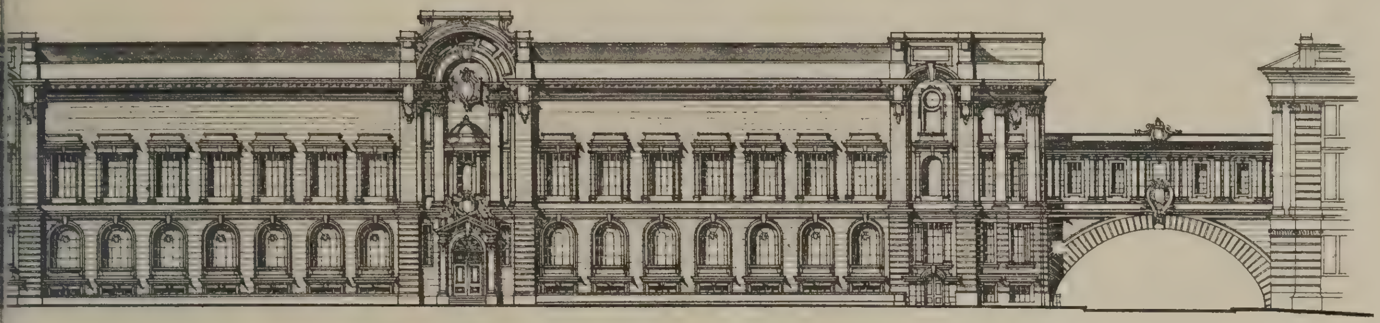

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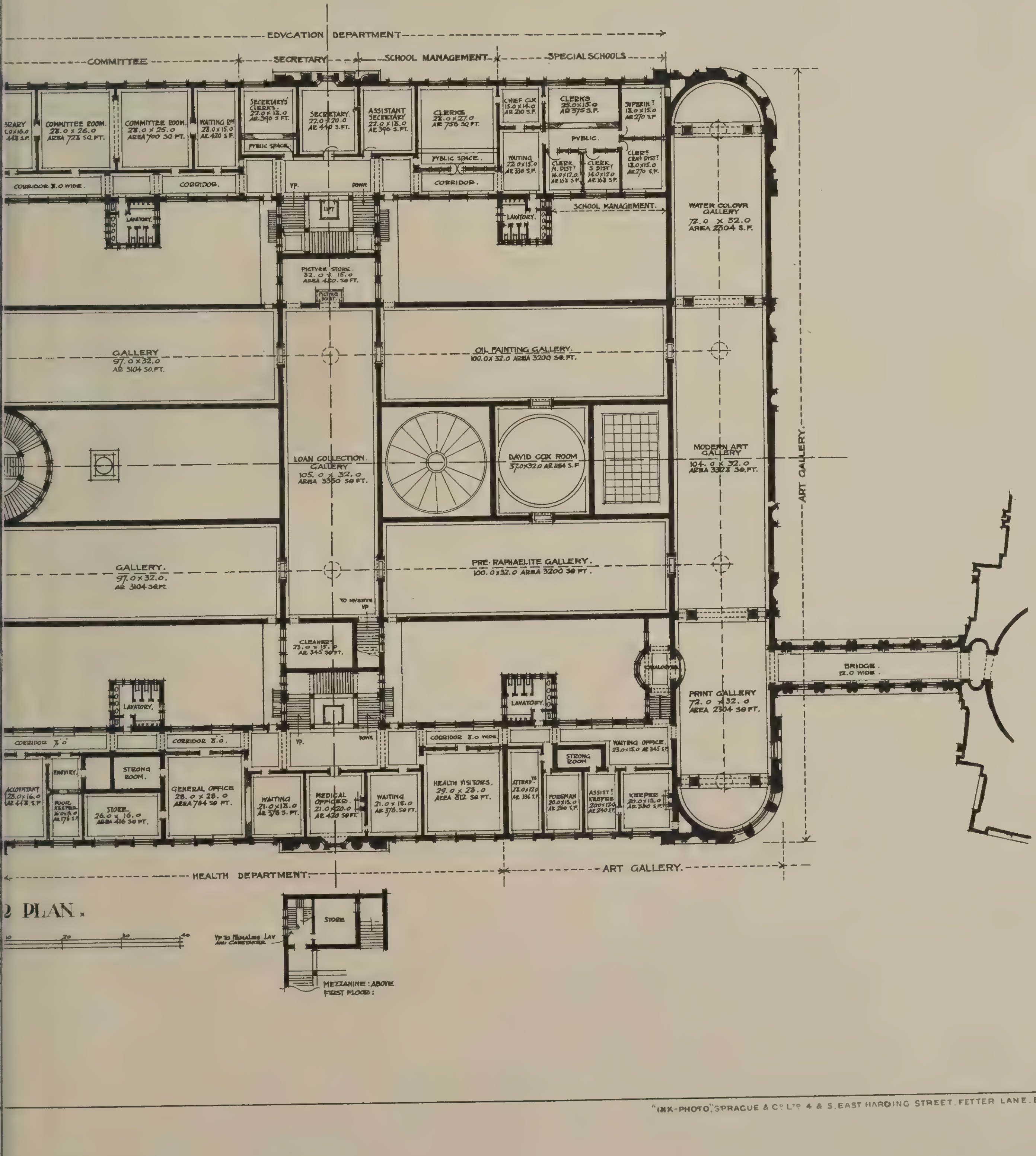
EDVCATION DEPARTMENT
COMMITTEE
SECRETARY
SCHOOL MANAGEMENT
SPECIAL SCHOOLS
BRARY
COMMITTEE ROOM. 28.0 x 26.0 AREA 728 SQ. FT.
COMMITTEE ROOM. 28.0 x 25.0 AREA 700 SQ FT.
WAITING Rm 28.0 x 15.0 AR 420 S.F.
SECRETARY'S CLERKS. 27.0 x 18.0 AR 390 S FT.
PVBLIC SPACE
SECRETARY. 22.0 x 20.0 AR 440 S.FT.
ASSISTANT SECRETARY 22.0 x 18.0 AR 396 S.FT.
CLERKS 28.0 x 27.0 AR 756 SQ FT.
PVBLIC SPACE.
CORRIDOR.
CHIEF CLK 15.0 x 14.0 AR 210 S.F.
CLERKS 25.0 x 15.0 AR 375 S.F.
SVPERINT 18.0 x 15.0 AR 270 S.F.
PVBLIC.
WAITING 22.0 x 15.0 AR 330 S.F.
CLERK N. DIST 14.0 x 12.0 AR 168 S.F.
CLERK S DIST 14.0 x 12.0 AR 168 S.F.
CLERK CENT DIST 18.0 x 15.0 AR 270 S.F.
CORRIDOR 8.0 WIDE.
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DOWN
LIFT
LAVATORY.
SCHOOL MANAGEMENT.
PICTVRE STORE 32.0 x 15.0 AREA 480. SQ FT.
PICTVRE HOIST
WATER COLOVR GALLERY 72.0 x 32.0 AREA 2304 S.F.
GALLERY 97.0 x 32.0 AR 3104 SQ.FT.
OIL PAINTING GALLERY. 100.0 x 32.0 AREA 3200 SQ.FT.
LOAN COLLECTION. GALLERY 105.0 x 32.0 AREA 3360 SQ FT.
DAVID COX ROOM 37.0 x 32.0 AR 1184 S.F.
MODERN ART GALLERY 104.0 x 32.0 AREA 3328 SQ.FT.
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PRE-RAPHAELITE GALLERY. 100.0 x 32.0 AREA 3200 SQ FT.
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CATALOGVES
PRINT GALLERY 72.0 x 32.0 AREA 2304 SQ FT.
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CORRIDOR 8.0.
CORRIDOR 8.0 WIDE
WAITING OFFICE. 23.0 x 15.0 AR 345 S.F.
ENQVIRY.
STRONG ROOM.
ACCOUNTANT 28.0 x 16.0 AR 448 S.F.
DOOR KEEPER 16.0 x 11.0 AR 176 S.F.
STORE 26.0 x 16.0 AREA 416 SQ FT.
GENERAL OFFICE 28.0 x 28.0 AREA 784 SQ FT.
WAITING 21.0 x 18.0 AR 378 S.FT.
MEDICAL OFFICER. 21.0 x 20.0 AR 420 SQ FT.
WAITING 21.0 x 18.0 AR 378. SQ FT.
HEALTH VISITORS. 29.0 x 28.0 AREA 812 SQ FT.
ATTENDTS 28.0 x 12.0 AR 336 S.F.
STRONG ROOM
FOREMAN 20.0 x 13.0 AR 260 S.F.
ASSISTT KEEPER 20.0 x 12.0 AR 240 S.F.
KEEPER 20.0 x 15.0 AR 300 S.F.
HEALTH DEPARTMENT.
ART GALLERY.
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VP TO FEMALES LAV AND CARETAKER
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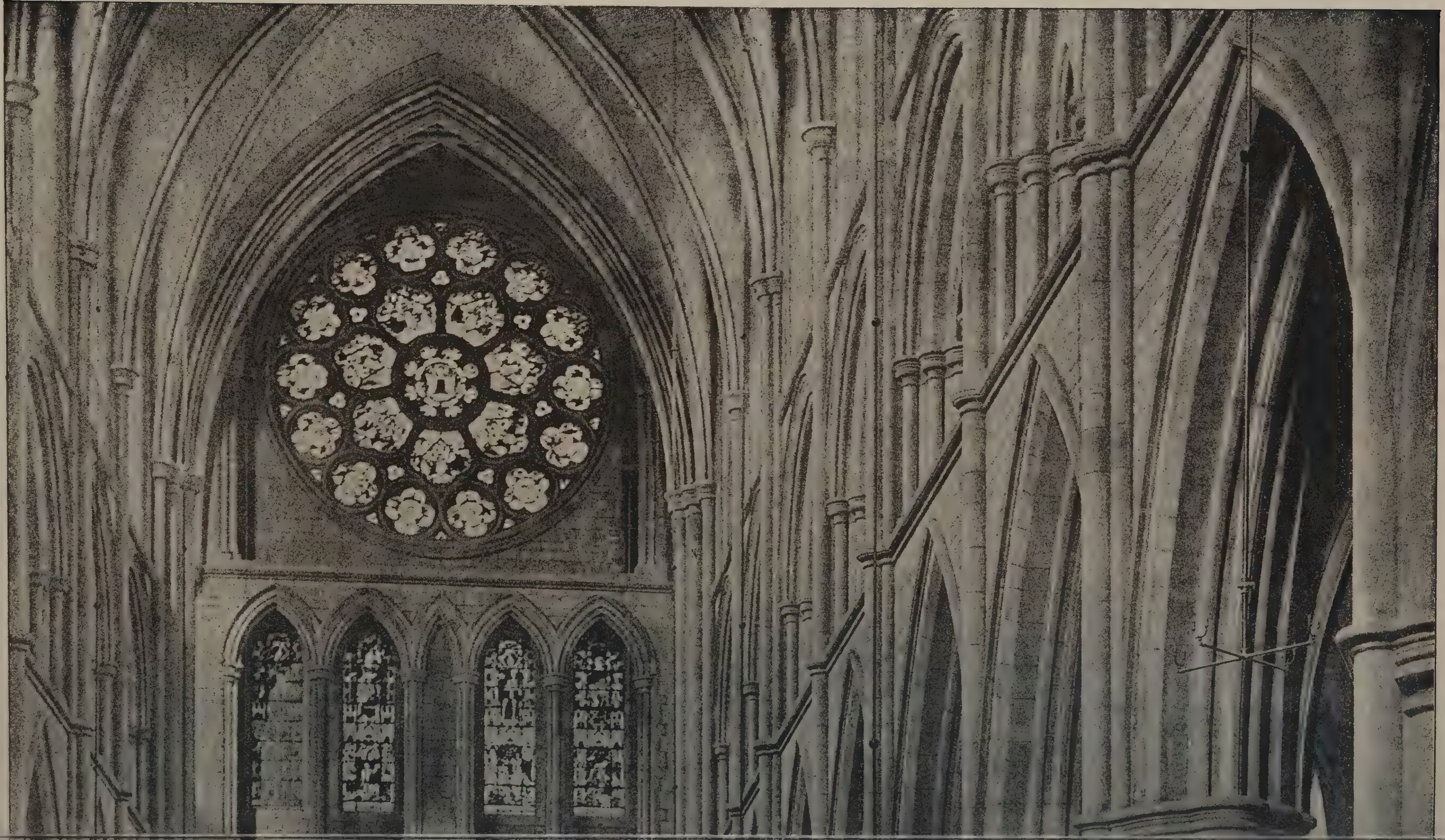

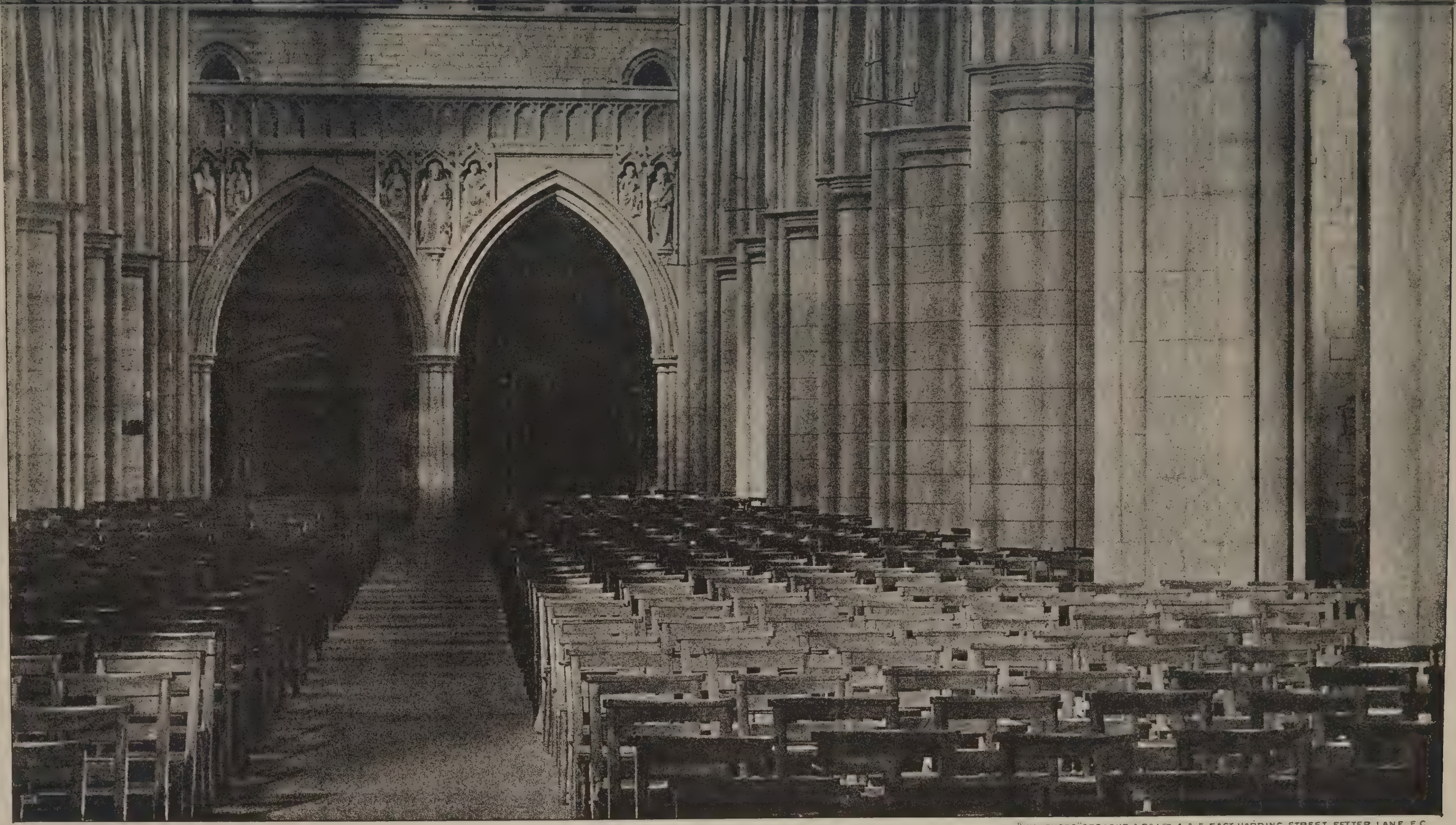

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CATHEDRAL SERIES, No. 561.—TRURO: NAVE, AND WEST END WITH GALLERY.

The late J. L. PEARSON, R.A., Architect.

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The Architect.

THE WEEK.

Novelists sometimes represent heroic young partners in a factory who deal with strikes in a dauntless manner by bringing "hands" from some distant place. Although English law is not favourable to strikes, it does not approve the least irregularity in any measures which have to be taken to counteract them. An instance of this peculiar impartiality has been afforded in Bolton. This year there was a strike in one of the big mills, in which women workers shared. Successors were found to take their place, but they found it difficult to endure the jeering of the people in the streets. It was therefore decided to make the women as comfortable as possible in the mill in order to diminish the necessity for going out of doors. The third storey of a warehouse was converted into a dormitory to accommodate from 100 to 200 young women, and the sanitary inspector described it as large, lofty and well ventilated. A new gymnasium became a dining-room. Both acts were, however, contrary to the by-laws. The usual notices and plans had not been given. The company who own the mill were accordingly summoned for two offences. It was argued on their behalf that the warehouse was not converted into a dwelling-house, which Chief Baron Kelly defined as a place where a man sleeps at night and uses for the purposes of his house in the daytime. There was no structural alteration, and therefore no "conversion" as required by the Act. The assistants were free, and all that was done was to save them from insults. The magistrate had to declare that the conversion of a warehouse floor into a dormitory was a breach of the by-laws. A fine of 40*s.* with costs was imposed. The second summons was not heard. A case was applied for. It would, no doubt, be easy to avoid such an offence by giving a fortnight's notice. But trade disputes resemble battles, and time is an important consideration. The possibility of meeting a difficulty without any delay is impressive. The law, however, does not recognise distinctions, and, as the architects know to their cost, the higher Courts usually uphold by-laws against all opposition.

It is very seldom that such a numismatic treasure has rewarded research as one which was found last week by a French priest close to the ancient Roman highway between Evreux and Chartres. In an earthen pot he discovered no less than 2,400 pieces bearing the effigies of Julius Cæsar, Augustus, Marcus Aurelius, Septimius Severus, Adrian, Gordian, Alexander Severus, Commodus, and of the Empresses Crispina, Lucilla, Faustina. What increases the interest is the variety of exergues. There are besides medallions which commemorate various battles. Evreux, which was the ancient Mediolanum Aulercarum, has a museum of antiquities in which many varieties of Roman work are exemplified. The coins, which are all in capital condition, will probably be added to the collections.

The river Clyde would not be libelled if at one time it had been described as malodorous. Science has not as yet discovered any appliance which would reveal the degree of offensiveness in the air. Otherwise it would be curious to compare the relative degree of suffering which passengers in vessels had to endure while passing along the Thames and the Clyde. Indeed, the state of the great river of the north used to make some archæologists declare that the salmon which appear in the city arms were not Clyde salmon, but symbols relating to something else. Since Glasgow has taken to sanitary works it has carried them out with characteristic energy. Bateman's scheme for conveying water from Loch Katrine appeared to many English municipal authorities as a financial impossibility. But its success caused other cities to endeavour to imitate it. The main drainage is another vast work. The late John Carrick, architect and master of works, had the courage to suggest a system of sewerage by which the Clyde would be superseded. Two-thirds of the work have been carried out, and the final section was commenced on Monday. The whole of southern Glasgow, with Govan, Pollokshaws and Rutherglen, and other places within an area of 14 square miles, will be improved sanitarily when the new works are completed. The Clyde will also cease to be offensive. The works will be directed by Mr. A. B. M'Donald, who was an assistant of Mr. Carrick, and has been long connected with the improvement of the sanitation of Glasgow.

The Brandenburg Gate in Berlin was erected towards the close of the eighteenth century, and was rather suggestive of the city and of Prussia. It is a severe structure in Roman Doric, presenting six columns to the spectator on both approaches. It is surmounted by a quadriga of Victory in a chariot drawn by four horses, which was carried off by the French in 1806 and surrendered after the downfall of Napoleon. The building was flanked by two small houses similar in style, one of which was used as a toll-house and the other as a guard-house. Practically it continues the line of the buildings on both sides, and when it was erected it marked the boundary of Berlin. The wide roadway, Unter den Linden, opens out into a square before the gateway, which is known as the Pariser Platz, and thus recalls the part taken by the Prussians in conquering the French capital. Since 1814 Berlin has largely increased its area, and the Brandenburg Gate has not only ceased to express the boundary, but it is an obstacle to the fine view which might be obtained from the Schloss Bridge and the memorial of the first emperor. It has therefore been proposed to remove the buildings which adjoin the gate. There is no longer a necessity to examine and tax goods on entering the city, and the small customs house is now a telegraph office. A great many artists are opposed to the scheme, because it would alter an arrangement which has lasted for nearly 120 years, which in a new city like Berlin is a long period. The Architects' Union of Berlin has formally passed a resolution in favour of the continuance of the present arrangement. The gate has now a character of its own, and an alteration would suggest a desire to imitate the Arc d'Etoile in Paris, although the two structures are unlike. A part of the official scheme is to construct a tunnel beneath the Platz, in order that the existing street railway might not interfere with the severity of the structure.

The médaille d'honneur for architecture at the French Salon (Société des Artistes Français) has been awarded to M. Jules A. Godefroy. First-class medals have been gained by MM. Yperman and Rey, second-class medals by MM. Ventre and Bans, and third-class medals by MM. Remaury, Lefort, Ebrard, Boutin, Piéron, Leprince-Ringuet, Haubold, Lansburgh and Février. Among the "mentions honorables" in architecture is the name of Mr. Arnold Mitchell, who was represented by his designs for a villa near Ostend for the King of the Belgians, and for a house near London. In the section of painting M. Rochegrosse, who produces pictures on an immense scale and mostly of subjects from ancient history, has at length obtained the médaille d'honneur. Mr. Bernard F. Gribble, for his *Ship Attacked by Salee Rovers*, and Mr. Julius Olsson, for his *Twilight*, have been honourably mentioned. Similar recognition rewards Mr. W. Lee Hankey and Mr. W. H. Fritton. Mr. A. S. Cope has been awarded the Prix Rosa Bonheur. The principal reward for sculpture was given to M. Antonin Carlès, and for engraving M. Focillon was elected.

FLEMISH PAINTINGS.

THERE are now to be seen in the Guildhall Gallery works by more than eighty artists of the Flemish school. As the series begins with the Van Eycks, and comprises examples of painters who are living, it can be accepted as representative of that venerable school. With other schools it would be absurd to suppose that a couple of hundred paintings could be suggestive of their history. We have only to imagine how insufficient the number would seem in the case of the English school, with every artist endeavouring to become an innovator. But in Belgium there is not only a long line of traditions in art, it is, moreover, respected. One result is that collectors can bring together examples of different centuries, and their galleries have more unity than is possible in this country, although the English school has not existed for more than a century and a half.

We may even go so far as to assert that a single work by one of the able Flemish or Belgian masters is sufficient to recall the characteristics of the class of painting to which it belongs. For that reason we publish this week a reproduction of the painting by the late Albert de Vriendt, *Homage Rendered to the Infant, Charles the Fifth*,* which, with its neighbour, *A Martyr of the Sixteenth Century*, by Professor Geets, appear to be most attractive to the crowd of all the pictures in the Corporation Gallery. To those who have not given attention to the peculiarities of Flemish painters the figures are likely to appear strange. The faces especially are not of the kind which are usually found in historical pictures. When historical painting received more attention than it does at present it was considered essential that even supernumeraries should be handsome men and women, that is to say, idealised. As Reynolds said, "the artist is supposed to have ascended the celestial regions to furnish his mind with the perfect idea of beauty," and he quotes Proclus for the maxim that "he who takes for his models such forms as nature produces, and confines himself to an exact imitation of them, will never attain to what is perfectly beautiful, for the works of nature are full of disproportion."

Albert de Vriendt did not adopt that belief, and he was warranted by the precedents established by ancient masters of his school. In the earliest paintings in the Guildhall Collection we see a respect for realism, and we cannot fail to come to the conclusion that the subjects, however exalted, are portraits, it may be, slightly adapted for the office they hold, but still leaving the impression that contemporaries could recognise the originals. The length to which this fidelity can go can be seen in the small works by M. Jan Van Beers. Some years ago he startled Paris by a portrait of his father, which in minute reality of details was not approached by any of the French Primitives. But since those days photography has suggested a manner of expressing realism which was unknown before. M. Jan Van Beers occasionally wishes to exasperate authoritative personages, and his *Shepherdess* of the time of Louis XV. and his portrait of Sarah Bernhardt would be declared to be photographs by an ordinary dealer. But the artist, with his enviable delicacy and sureness of hand, is only expressing realism in a style which to many would be erroneous.

There are three artists who were commonly supposed to be the chief representatives of the Flemish school, but who in several ways departed from its traditions. They are Rubens, Jordaens and Vandyke. Rubens studied in Italy and he copied works by several of the great Italian masters. Indeed, the competition cartoon by Da Vinci is only known from an engraving after his drawing. Like all able artists, he could not make a copy of even the simplest work without imparting to it some of his own characteristics. But, on the other hand, he was taught in Italy how more time could be gained by simply imagining figures and faces than by painfully copying them from nature. Occasionally when the humour had seized him he would be at the trouble to suggest personal peculiarities, and when painting portraits of great people he had to appear as if desirous of being faithful. But it would be impossible for Rubens to have produced such a number of figures if he had adhered to the old Flemish system. That, we might say, was the system of miniaturists, who were very slow, and who rejoiced when they had completed an initial letter. The popular belief about Jordaens is that he was not only a Fleming, but the coarsest among them. In his portraits and church paintings he was as dignified as Rubens. His peasants are not, however, related to those that we see in works of earlier masters. Vandyke's Flemishness would be difficult to discover. His *Rinaldo and Armida*, which is in the collection, is essentially Italian and would find approval in the eyes of Tasso as a worthy illustration of his work.

The three artists we have named also favoured the production of large pictures. Now the early masters of the Flemish school, as we can see from the examples in the Guildhall Gallery, preferred to work on small panels. There is a portrait by Hubert van Eyck which measures 9 inches by 6½ inches; and a *Virgin and Infant Christ* by his brother Jan van Eyck, which is 9 inches by 6 inches. Certainly there is a triptych by Jan which is of larger size, and if all the parts of the great *Worship of the Lamb* by the brothers (which was in Ghent) could be brought together, as has been proposed, the dimensions would be surprising. But the largest of the panels, which remains in the cathedral, is only about 7 feet in length. Size has an important connection with the history of Flemish art. No doubt there were paintings produced during the long sojourn of the Romans and during the early Mediæval period. But what we know as Flemish art really started about the end of the thirteenth century, when the burghers realised that union was strength, and when they acquired privileges by paying for them or fighting for them. Then they found they could have personal possessions, and they enjoyed painting in the form of scriptural scenes which they could place in their little oratories, and portraits of themselves and their relations. The great portrait by Jan van Eyck which we have in the National Gallery is a memorial of a man and a woman—and we may add a dog—which may be said to have conferred immortality on those who had paid for it. It is curious to find among the early paintings that one of the most remarkable is the *Enthronement of Thomas à Becket as Archbishop of Canterbury*, which was painted in 1421, and is the earliest known picture of Jan van Eyck.

The modern painting by Emile Wauters, which is in the Brussels Gallery, of *The Madness of Hugues Vander Goes*, imparts interest to the *St. Victor with a Donor*, for the old painter's works are not known in England. There are some doubts about the authorship, but it certainly appears to be a Flemish work of the fifteenth century. There are two other works by the artist. Hans Memling owes much of his renown to the pretty story about his rescue and his painting the shrine in the hospital at Bruges in return for the kindness he received. It appears, however, that he was a prosperous gentleman. The largest of the four works ascribed to him in the collection is a triptych, in which it appears are portraits of Sir John Donne, of Kidwelly, Carmarthenshire, Controller of the Customs of Bristol, and his wife, Elizabeth, youngest daughter of Sir Leonard Hastings, of Kerkby, and sister of William, first Lord Hastings, Lord Chamberlain to King Edward IV. The early paintings in the first gallery surprise by the brilliancy of the colours. Some may have been repainted and others restored. But those operations are not sufficient to explain the brilliancy which is so general. The Flemish guilds were without professors of chemistry, but they discovered means of endurance, some of which are unknown even in modern Belgium.

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* See Illustration.

In the second gallery there are three portraits by Frans Hals which appear to be so easily produced they resemble scene-painter's work, as if they were to serve for an "interior." The portrait of that erratic warrior, the Earl of Peterborough, by Vandyck, is again displayed. But it is so out of scale with the majority of the works, the subject appears to be a giant. The *Interior of a Church*, by Peter Neefs, compels one to ask how much is reality and how much imagination.

The modern works are likely to be the most popular. *Art and Liberty* is a small study for a painting that was made familiar through lithography. Another repetition of one of Gallait's works is the *Têtes Coupées*, or the last honours of the Brussels marksmen to Counts Egmont and Horn. They were two of the victims of D'Alva's tyranny, and both are shown lying as if in bed, with the decapitated heads attached to the bodies. Gallait avoided archaicism of treatment, although he preferred historical subjects. All or any of his works might have been produced in the atelier of Delaroche. By Baron Leys is *Martin Luther Reading the Bible to his Companions*, which is one of his characteristic works. He is one of the most important figures in the history of modern Flemish art. Although he modified the Flemish tendencies which were strong with him, his style of composition shows respect for modern canons. *Life's Frailty* and *The Evening of Life* by Théophile Lybaert show the perfection of handling which is attainable in Belgium. The old woman who was the subject of the second painting might have been carved in ivory, and, however we may scrutinise, a brush stroke is not to be discerned. William Linnig, jun., would be taken as only a painter of still life, from his *After the Wedding*, which represents a breakfast table when the guests have left; but his *Soothsayer; Temptation of St. Anthony*, and *Rabelais* show skill as a figure-painter.

No collection of Flemish paintings is complete without a group of dogs by Stevens. In the gallery there are only two, but they show his skill in that class of work. *A Calm* by Clays is another necessity which is gratified. Professor Geets in *A Martyr of the Sixteenth Century* represents one of those scenes which could be enacted in Europe in that troubled age. The kind of death that awaits her—*i.e.* burial alive—is indicated by the tools which are carried in order to open the ground. Henri de Braekeleer was mainly a painter of still life, but still life with him did not mean the humblest class of art as it is supposed to be in this country. The *Atlas* in the Brussels Museum, showing a man endeavouring to discover a place on a map in a colossal volume, and who is surrounded by old lanterns and lamps, is one of the pictures which remain in the memory when seen. There are five of his works in the Guildhall Gallery. The colours are faded in the *Girl Reading*, but the view from an open window, called *Antwerp*, the Maison Hydraulique, the hall of the Brewer's House and the properties of the studio are all in a perfect state, and are marvels of careful drawing and light and shade.

Alfred Stevens is so modern, and is so much appreciated in Paris, it might be supposed that he is foreign to the principles of the elders. But the main difference is that he painted in the nineteenth century while they painted in the fifteenth. If hereafter some historian of social life—it may then be a lady—should wish to know what *frou-frou* signified, and why it should give rise to a class, it will be only necessary to look up some of the artist's paintings. The Indian shawl which is represented in *The Visit* manifests his delight in textiles, of which we see different varieties in *L'Accouchée*, *The Lady in Grey* and *Fedora*. In his appreciation of millinery he resembles Gainsborough.

There are other painters whose works will repay repeated visits to the Guildhall Gallery. In seeing them all lovers of art are likely to desire that those among them which could be purchased should remain in this country. In England the power of individuality is unfavourable to unity. But that unity has power possessing many advantages is shown in this collection, brought together almost by chance, no less than in the public galleries of Belgium.

SCIENCE BUILDINGS IN UNIVERSITIES.

One of the differences between ancient and modern universities arises from the greater importance which now belongs to buildings. If Athens can be considered as the ideal university, it managed to succeed without any aid from special buildings, for the greater part of the teaching was given out of doors in groves or when weather was unfavourable in porticoes. In the Mediæval universities the same principle was recognised. Everything depended on the professors, and they resembled, to some extent, our modern street preachers. They generally insisted on payment, however small, before their lectures, for experience was likely to have taught them that collections afterwards were not generous. The legend of the two itinerant Irish scholars who attracted the attention of Charlemagne by crying out in a city where he happened to be present, "Who wants wisdom? Who wants wisdom? Let him come to us, for we have it to sell," brings before us the simple manner in which knowledge was retailed. Books were cumbrous and costly, and could not be carried about. It was therefore necessary for every one who set up for a teacher to have a retentive memory, in order to be able to explain whatever was known about his particular subject. As a consequence the professors were specialists, and in such a city as Paris, where there was competition on a grand scale, a student attended whoever was able to give him most value for the money expended in fees.

The students were not loyal to any one school. Although a journey in the Middle Ages was dangerous, yet men were not daunted in travelling through Europe in search of knowledge. Bec, in Normandy, was more remote as regards accessibility than parts of Africa are now, but it was so famed as a school of logic, many students were attracted to it from Italy and elsewhere. Abelard gained reputation in Paris as a teacher and disputant. When he was compelled to leave the city he continued to be followed; wherever he was driven crowds of youths who were eager to be taught awaited him, and when he took refuge in a forest they erected huts to shelter themselves with branches of trees. Students from Paris were no doubt acquainted with discomfort, for there was no provision for lodgings in the houses in the narrow streets which corresponded with the accommodation which subsequently was available in Oxford and Cambridge. At the latter city, if we believe Wood, the university began in a common barn, and the students lived where they could, but in a short time there was no necessity to suffer privations.

While the three or four arts (the Trivium or Quadrivium) or even the seven arts of grammar, rhetoric, arithmetic, logic, geography, astronomy, and the science of music were taught, there was in theory at least no call for any buildings except for lecturing, examinations and administration. The professors were supposed to represent the whole extent of what was knowable. Nor was the monastic system of residences for students within collegiate enclosures indispensable. The London University shows what can be accomplished by a departure from ancient arrangements. On the Continent there are several universities which are also without means for housing students. Opinions differ on the subject, but in this country it is believed that the system which existed in Oxford in the thirteenth century of a sort of family life through the agency of colleges is best adapted to the nature of Englishmen.

Apart from buildings of that class a modern university must provide others which will correspond with the most recent curriculum. That has become a necessity which the authorities of old universities have imposed by their own acts. They could have continued to restrict their teaching within the limits which were known to Greeks and Romans and Mediævalists. For many men the old Academic arts continue to be as excellent a training for the duties of their stations as they were proved to be in the old days. Prior to the seventeenth century the inhabitants of the world, whose education was confined within narrow limits, were not "mostly fools." But the monopolising spirit was not absent from universities, and when the new sciences were announced they were supposed to be allied to the old arts, and provision was made for teaching them if not effectually at least academically. The consequence is that a university must recognise the growth of science or the appearance of new sciences and provide for their exposition.

What that means is now being exemplified in Paris. The university of that city, in a historical sense, is perhaps the most interesting example of its kind in the world. It is supposed to date from the eleventh century. The Sorbonne, which was for long the theological section of the university, and is now commonly taken for the university in its totality, is a creation of the thirteenth century. Everything in the form of education which exists in France, with the exception of some branches of the fine arts, comes under the surveillance of the university. Sciences, literature ancient and modern, law, medicine, schools, colleges, may be said to derive their character from its spirit, and they change in proportion to the changes of the Council.

For a long time the university of Paris appeared to be a dormant authority to the majority of Frenchmen. Professors and other teachers knew by experience how troublesome it could be, and that it was always ready to pounce on them. The popular belief was inspired to some extent by the university buildings. They were used partly for offices, partly for gratuitous lectures and distributions of prizes. It might be imagined they were shelters for poor people who were without occupation, but contrived to exist. The creation of M. Nénot's new Sorbonne some twenty years ago took the whole Quartier Latin by surprise. It demonstrated that it was to serve new purposes and that educational affairs were to be revolutionised. The new building was more successful than was anticipated. The lectures were attended by larger and more intelligent audiences, and the action of the educational authorities excited more attention. Already it has been demonstrated that the Council of the university were not sufficiently sanguine, for the buildings are not extensive enough for their uses.

It is strange to find the Sorbonne now identifying itself with science instead of theology. The decisions of the doctors were at one time awaited with anxiety in courts as well as convents, and it was through one of their opinions that Joan of Arc was condemned to the stake. In these days the greatest anxiety is to provide new buildings where special sciences can be pursued. Two years ago it was announced that the evolution of organic beings was taught in one inadequate building, applied chemistry in another, applied mechanics on the third floor of a house to which apparatus could not be hoisted. Then archæology as a science was neglected, because there was no room for collections, and although the late M. Curie, who, with the aid of his wife, had discovered radium, was appointed a professor, it was impossible to find a place where he could teach.

There was a time when such deficiencies would be unheeded, but at present France is not behind other countries in confidence about the material advantages with which science can reward its votaries and promoters. As sometimes happens when the necessity is pressing, a site having all the advantages which are desirable offered itself. In the heart of the Quartier Latin, between the Panthéon and the Ecole Normale, is a very large garden attached to a convent which was a reformatory for women. The nuns, who were not affected by the law against religious orders, desired to remove outside Paris, and the land was for disposal. It did not require much diplomacy to obtain an agreement from the French Government and the Municipal Council of Paris to the purchase of the ground by the university authorities and to spare the expense.

No time was lost in giving a commission to M. Nénot for the preparation of plans for an institute of applied chemistry. Fortune favours the brave, and M. Liard, the vice-rector of the university and president of its Council, discovered that the Prince of Monaco, who is an enthusiast for oceanography, was eager to have the new science brought within the sphere of the university. He has given a large sum which will not only pay for the site but for the erection of a building. After so much success there is not likely to be a long delay before a laboratory for the study of radio-actives will be erected and placed under the direction of Madame Curie, as well as an archæological museum. The Cluny Museum is close to the Sorbonne and the proposed buildings, but although there are valuable collections in it they belong to a limited period and would not serve the purposes of a professor of archæology in general.

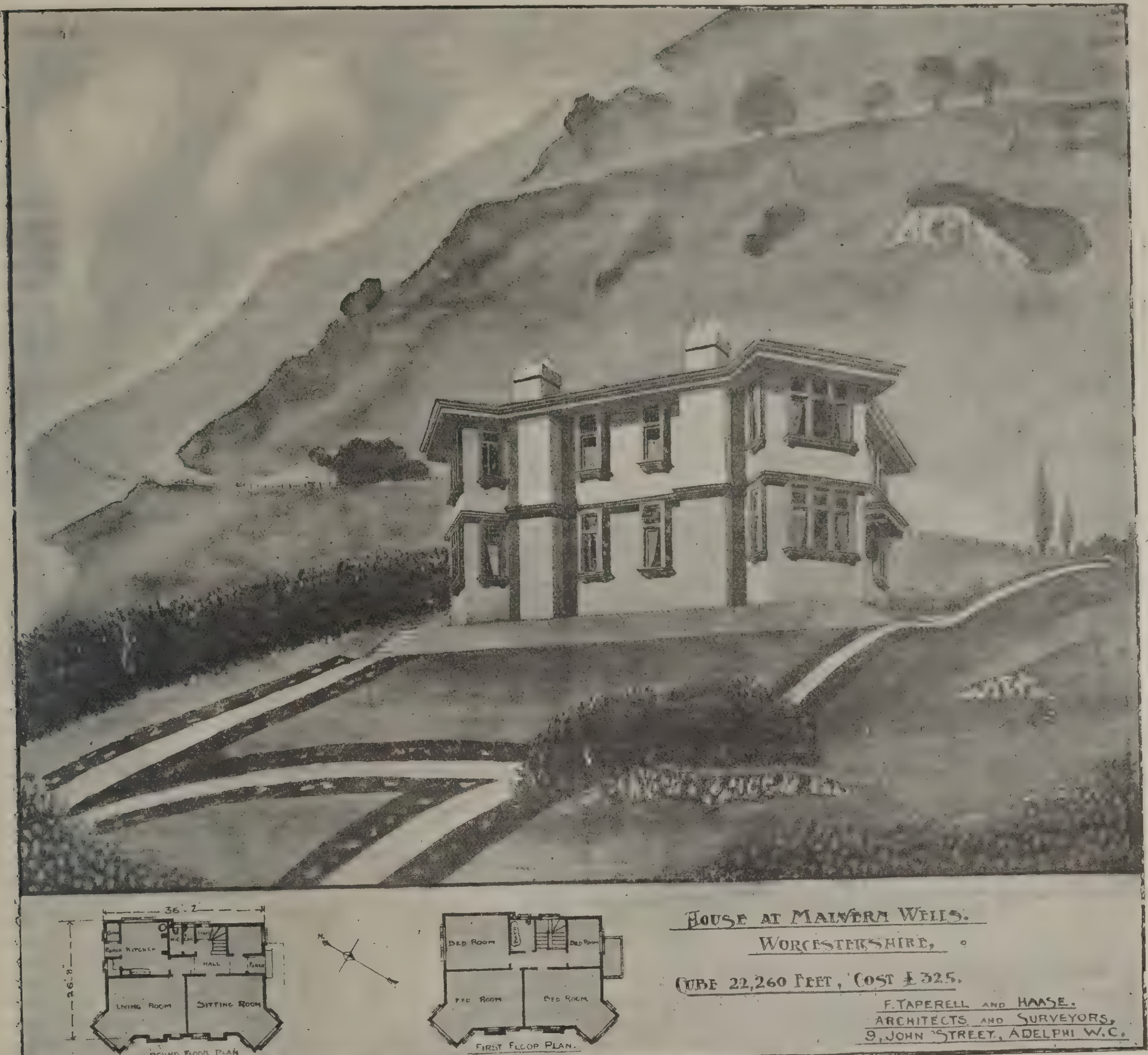
The buildings which are about to be erected will, of course, be followed by any others which are necessary. Literature can be taught in classrooms or in gardens. But the sciences need laboratories and museums which have to be specially planned. Without that aid the knowledge acquired is likely to be merely verbal and useless for application. The inquiries which have lately been gone through respecting a college of science at South Kensington reveal how much has to be done if Great Britain is to compete with foreign nations. The universities have also to meet the demand by the erection of special buildings beyond those which now are made to serve, otherwise it would be preferable to abandon the teaching of science and to fall back on subjects which are independent of the aid of architects and builders.

HOUSE AT MALVERN WELLS.

THIS cottage has been designed to meet the requirements of a cheap substantial building to cost not more than 350*l.* The walls and partitions are built of local bricks; the external walls rendered with cement, finished with pebble dashing, the upper part coloured a light cream and the lower a natural grey. The woodwork is generally square or chamfered, the external woodwork stained a dark oak and varnished. The ground floor is finished with 1¼-inch grooved and tongued boarding, nailed to the cement concrete. The roof a concrete flat constructed with small steel joists 3 feet apart and coke breeze cement concrete, finished on top with two layers of half-ply Ruberoid cemented down; the eaves project 2 feet 3 inches all round. An alternative estimate for a batten and tiled roof was obtained, and it was found that the flat roof effected a saving of 35*l.* All rooms are 8 feet 6 inches high in clear. The cube of building, measured from bottom of brick footings to top of flat, is 22,260 feet. The contract price is 325*l.*, which is about 3½*d.* per foot cube. In this case no concrete was necessary under the brick footings owing to the ground being rock.

The London County Council have approved the expenditure on capital account of 2,000*l.* in respect of the preparation of plans and estimates in connection with the proposed erection of a new asylum on the Horton estate, Epsom.

Sir Thomas Gibson Carmichael has been appointed a trustee of the National Portrait Gallery in St. Martin's Place, in succession to the late Dr. Richard Garnett. Sir Thomas is on the committee of the Burlington Fine Arts Club, and is a member of the Board of Manufactures, who are trustees for the National Galleries of Scotland.



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BERKS ARCHÆOLOGICAL SOCIETY.

THE annual meeting of this Society was held last week, Mr. C. E. Keyser, M.A., F.S.A. (president), in the chair. The annual report stated that the Victoria history of the county is progressing satisfactorily, and the first volume is now in the hands of the binders, and may be expected by the subscribers very shortly. The committee secured from the Corporation of Reading the room at the Abbey Gate at a rental of 5*l.* per annum, and purchased the fittings for the sum of 4*l.* This room will be devoted to the purpose of a library. The question as to the repair and decoration of the Abbey Gate has occupied attention. It was felt, however, that before the Society spent any money on the building the committee should have a more secure tenancy than they at present have from the Corporation. The Corporation has expressed its willingness to grant a lease of seven or fourteen years on condition that the sum of 50*l.* be spent in decoration, and that some necessary internal repairs, the cost of which has been estimated at 38*l.*, be undertaken by the Society. At Silchester progress has been made with the excavations, and some interesting buildings in Insulæ V. and VI. have been brought to light, and other objects which will be exhibited at Burlington House on June 6 to 19, will ultimately find their way to the Reading Museum. Mr. Keyser was re-elected president by acclamation.

The Rev. Alan Cheales then read, says the *Reading Mercury*, a paper on "St. Edmund's Chapel, Reading, 1284-1906: Lost and Found." Antiquaries, he said, sometimes scored a success, and were sometimes cheered by an unexpected discovery, by a bit of old-time life being produced before them, a lost locality recovered or an almost forgotten name suddenly brought into prominence, as in the present instance, by the quite unexpected regaining of a long-lost feature of the ancient town of Reading in the relics of an ecclesiastical building of the thirteenth century, namely, of the remains of St. Edmund's Chapel, which was founded in 1284—some 160 years after the great abbey—and had gone through even yet more striking vicissitudes. St. Edmund's Chapel, with its hermitage, once stood at the end of Friar Street, slightly west of the present parish church of Greyfriars, and was dedicated to the last king of East Anglia, who was specially commemorated at Bury St. Edmunds, and was martyred in 870 by the Danes, who about the same time swooped down upon Reading and did no little mischief. It was some 400 years later when the little town which the Danes had burned was rapidly rising into note under the fostering wing of its great abbey that Reading revived also the martyr king's memory, worthy Laurence Burgess, "Bailiffe of Reading," then founding St. Edmund's Chapel, and building near to it a hermitage, to which he presently retired. It was founded in 1284, desecrated in 1479 by Abbot Thorne I., made into a fort in 1643 by Sir Arthur Ashton, then governor of Reading, and taken down and rebuilt at Battel Farm in 1790. After that it was utterly lost sight of, but was finally refound in the present year by Mr. Dryland Haslam. The chapel, a pretty and graceful specimen of thirteenth-century work, was on the hillside sloping down to Caversham, upon the triangular piece of ground near Greyfriars now so singularly, after all these years, again standing unoccupied. Of the hermitage there remained neither trace nor tradition, but the site of the chapel was still given upon Ordnance maps. Of the history of this interesting building the learned essayist gave in detail every available scrap of historical information down to 1894, when he was writing the story of the siege of Reading. Being greatly interested in the chapel-barn-fort, he then inquired and searched, but could find no sufficient records of what had become of it. His friend Mr. W. T. Bilson, with great antiquarian acumen, had fixed on a barn, but had no sufficient proof then that it was the barn of which they were in search, and he applied to the firm acting as agents for the Battel estate without being able to obtain precise information. For twelve years the matter was at rest, until suddenly, some two months ago, a benevolent wind blew down part of the side of one of the Battel estate barns, and out of the *débris* there tumbled a mass of worked stones which had evidently formed part of an ecclesiastical building. Instantly it flashed upon Mr. Dryland Haslam that the broken barn was the St. Edmund's, and instantly also he received a full answer to his twelve-year's-old inquiry and the chapel-fort-barn was located. The museum authorities were communicated with, and they eagerly availed themselves of the polite offers of the owner, Mr. Saunders, to put the find at their disposal. They chose the best of the stones for the museum—portions, apparently, of a marble pilaster, which were now to be seen in the store-room of the Berks Archæological Society at the Abbey Gate. There was no longer any possible doubt as to the site of the chapel-fort-barn, which they would find in a farmyard a few hundred yards to the right of Oxford Road, on the Battel estate, within the grounds of Battel farmhouse. As the photograph Mr. Cheales handed round showed, it is a fine old building still, about 25 paces long by 14 wide. The thirteenth-century roof had unhappily been replaced by a hideous covering of corrugated iron, which replaced a roof of thatch, which replaced the roof of wood which Mr. Bilson told him was destroyed by fire. The character of the roof seemed to have been retained, as was suggested to him by an architectural friend, and its high pitch might have been not unlike the roof of Greyfriars, which was erected in 1311, about 127 years after St. Edmund's. He knew of no abbey relics in the way of stonework, except the font-stem now in St. James's Roman Catholic chapel, that could compare with the wonderfully-preserved marble of the pilasters of St. Edmund's, from which they might gather that the original chapel was a building of no mean proportions. After Abbot Thorne's desecration, and the unpleasant siege experiences, might they not believe that Laurence Burgess's troubled spirit had been at last laid at rest by the latest occupants of his chapel's site? A Gospel mission had been recently conducted on the very spot, and a mission tent had been standing there. Above "the bonys," as they assured King Edward, "of many Chrysten people," once more had been heard holy hymns and Gospel teachings, readings from the Holy Book, and stirring addresses, with thronging crowds of eager worshippers reconsecrating it. The ground might be built over, and probably would be, but it could never again lose its double memory of the bad times of the Fourth Edward and the good times of the Seventh.

The Rev. P. H. Ditchfield then read a paper on "The Ceilings of Walsingham House," which formerly stood at the corner of Minster Street, Reading.

EXCAVATIONS AT CAERWENT.

THE work of excavation at Caerwent (the Venta Silurum of the Romans) is to be resumed very shortly. Since autumn Lord Tredegar (who is president of the excavation committee) has, says the *Manchester Guardian*, purchased the property adjoining a portion of the site, which was yielding specially interesting results, and he has also bought a large grass field in the north-east part of the city, which will add about five acres to the area available for excavation. The cost of the operations last year amounted to about 250*l*., and the committee are again appealing confidently for support. An official report of this work, which will shortly be issued, will contain a detailed account of the excavation of the southern gateway, which seems to differ in some important particulars from the northern entrance. The other discovery of special interest during 1905 was that of a curious octagonal tank or bath. Some distance to the north of this structure a fine hypocaust was uncovered two years ago, and it is thought the two may have formed part of a public bath, but an intervening garden has hitherto formed an obstacle to the complete excavation of the building. The collection of smaller finds turned out in 1905 was more than usually interesting. Mr. A. Trice Matin is still acting as secretary, and, as before, the excavations will be superintended by Mr. Thomas Ashby.

It will be remembered that the unearthing at this spot a few years ago of an inscription concluding with the words "Civitas Silurum" afforded important evidence that the cantonal system was in use in Britain. In a paper read recently before the British Academy, Dr. Haverfield pointed out that while it is possible to discern the working of the cantonal system at several points in Britain, the British cantons were probably smaller and less wealthy than those of Gaul. He thinks this may be the reason why, although many inscriptions testifying to the working of the system are found in Gaul, this Caerwent stone is so far the only epigraphical evidence discovered in Britain.

Though Caerwent lies only a few miles from Caerleon, the Isca Silurum of the Romans, and one of the three great legionary camps, it affords very few traces of a military occupation. In the light which they throw upon the civic life of the Romans in Britain, however, these remains may perhaps claim a place beside those of Silchester, and as the plans of the buildings in both instances are being drawn to the same scale, a comparative study of the two will be of interest.

The site is within easy walking distance of the Severn Tunnel Junction on the Great Western Railway.

CHEVENING HOUSE AND CHURCH.*

THE late Canon Scott Robertson, in an address to the Kent Archæological Society in 1884, described Chevening House as a structure of three periods. First, the central, or main building, was erected by Inigo Jones between the years 1616 and 1630 for Richard Lennard, thirteenth Lord Dacre of the South, whose grandson, Thomas Lord Dacre, was created Earl Sussex by Charles II. On his death, failing male issue, the estate was sold by his daughters (1717) to General Stanhope (grandson of the first Earl of Chesterfield), who was created Earl Stanhope in the following year. Secondly, the first Earl Stanhope (James) added shallow wings to the east and west sides of the house, and erected large detached wings to the north-east and north-west of Chevening, with which he connected them by means of two curved galleries. He also formed the lake on the south side. These works were incomplete when he died in 1721, but were continued by his widow, who was Lucy Pitt, aunt of the great Earl of Chatham. In the third place, Charles, the third Earl Stanhope, who held the title and property from 1780 to 1816 (thirty-six years) hid the red bricks employed by Inigo Jones with a facing of cream-coloured mathematical tiles, and also added the stone pilasters upon the front and all the stonework about the front door and basement.

On entering at the hall the visitor's admiration is kindled by the beautiful fairylike circular staircase, which was constructed by the first Earl Stanhope and was finished about 1722. It is of old oak and has fifty-six steps—twenty-eight in each tier.

The arms which form trophies on the walls belonged to a disbanded regiment of militia, and were given to Thomas Pitt, Earl of Londonderry, brother of the first Countess Stanhope. The muskets and pistols were all made in Dublin during the reign of Queen Anne.

On the east wall a fine suit of armour, inlaid with gold, is flanked by two trophies, each consisting of forty-eight swords, inlaced like latticework. Flanking these are trophies formed each of thirty-two muskets. Around the helmet is a circle of twenty pistols, and similar trophies are above and about.

The house is one vast library of rare books, and is stocked with valuable relics and curiosities, including the telescope used by the Duke of Wellington at Waterloo and a snuff-box carried by the first Earl Stanhope on his campaigns. There are also many family and other portraits, and in one of the sleeping-rooms is an Elizabethan bedstead from Hever Castle. Lady Stanhope's boudoir is entirely hung with exquisite tapestry presented in 1708 to General Stanhope (first Earl) by Frederick I., King of Prussia.

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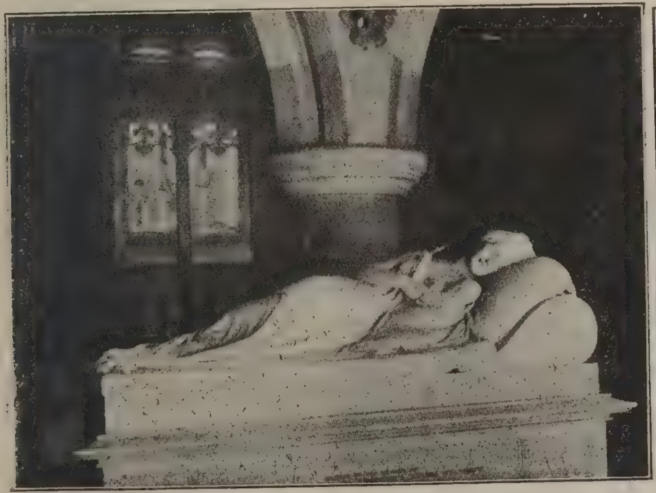
* Paper by Mr. W. T. Vincent, read at a meeting of the Upper Norwood Athenæum on May 19.

One bedchamber is known as the Chatham room and contains portraits of William Pitt and others, also a mirror with the monogram of Thomas Pitt, father of the first Countess Stanhope. The family is naturally proud of its connection with the famous statesman, and Chevening House is also associated with him by residence, for in the summer and autumn of 1769 the Earl of Chatham lived here for several months, and planned the new road through the park towards his own house at Hayes. It is still called Lord Chatham's Ride. Several letters from Lord Chatham and others written during his stay at Chevening are published in the "Archæologia Cantiana." In one addressed to Earl Stanhope the great man says:—"The place is in high beauty," and adds an expression of the pleasure he felt in "retiring from scenes without to the noble feast of the mind within—your Lordship's admirable library."

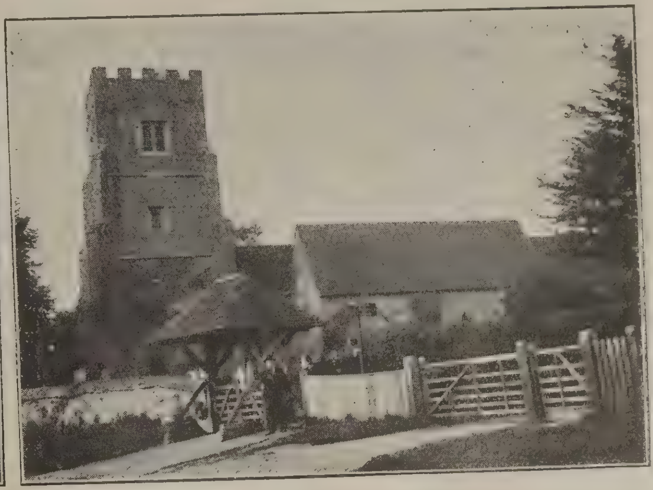
Chevening House.

A few words should be said about the Stanhope family, which has always held an honourable position, not only in the nobility, but in the paths of literature, arts and arms. Mention has been made of the first Earl, who was raised to the peerage for his distinguished services, being commander of the British forces in Spain, and gaining great renown by capturing Fort Mahon in the island of Minorca, 1708. The eldest son has been Lord Mahon ever since. The first Earl was also Secretary of State, Chancellor of the Exchequer and Prime Minister. His grandson, third Earl, was renowned for his mechanical genius and scientific researches, and he married the daughter of William Pitt, Earl of Chatham. The fourth earl married into the Rosebery family, and was Keeper of the Records at the Tower of Dublin. The fifth was a famous historian, also Under-Secretary of State for Foreign Affairs, and the sixth, who died last year, not only did estimable service in Parliament, but was a captain in the Grenadier Guards, Lord-Lieutenant of Kent and President of the Kent Archæological Society. He also wrote several standard books of history. The present Earl is also an officer in the Grenadiers, and has been called, at the early age of twenty-six, to responsibilities which he will doubtless discharge with a credit worthy of himself and his noble ancestors.



Tomb of Lady Frederica Stanhope.

The church of Chevening, dedicated to St. Botolph, is an ancient foundation, although the structure has been many times restored and altered to suit the fastidious tastes of the wealthy residents in this beautiful part of Kent. Its latest restoration was in 1858, when it was fitted with open seats, and a new south porch was built. The chief peculiarity of the church on plan is the abbreviation of the south aisle, which does not extend to the length of the nave westward, but only to the end of the chancel, its eastern part being devoted to the purposes of a mortuary chapel for the Stanhope family. It is doubtful if there has ever been a north aisle. It is true that the north windows seem to have been inserted in a closed arcade, but the arches do not correspond with central arcade, and there are no signs of columns. There are three Early English arches in the nave and two in the chancel, but no chancel arch. Most of the older windows are of the Perpendicular order, and a small Norman one remains north of the nave. The tower is rectilinear, and may be assigned roughly to the fifteenth century. It is embattled, and has an octagonal turret at the north-east, these frequent features of Kentish churches dating from the troublous times of the Plantagenet kings.



St. Botolph, Chevening.

Chevening House.

The church contains many monuments to the families who have been prominent in this part of Kent, the Stanhopes, the Dacres, the Lennards and others; but by far the most celebrated is the marble memorial by Chantrey of the beautiful Lady Frederica Louisa Stanhope, who died in childbed 1823. The figure of the young mother reclining with her baby at her breast is justly regarded as one of the noblest works of the great sculptor. The illustrations are from photographs by Mr. H. S. Mendelssohn, of Bayswater.

NOTES AND COMMENTS.

Times arise in towns when the amendment of the by-laws becomes a necessity which cannot be delayed. It is then difficult to expect consistency among those who submit plans or those who examine them. Concessions are occasionally made to meet particular cases and they are turned into precedents. Southampton at the present time appears to be in such a state. A builder was summoned for making party walls 9 inches thick, although the by-law stated party walls were to be 13 inches thick below the topmost storey. The defendant was erecting a terrace of ten houses, and although there were only five party walls he received ten summonses. It appeared that a few months ago the proposal by the builder to erect party walls 9 inches thick in other buildings was approved. Then the subject of amendment was considered by a committee who were equally divided, and no action was taken. Architects and surveyors gave evidence that the wall in question was a better wall than might be built under the by-laws, because it was stiffened by several cross walls. Apparently there was no certainty in the decisions of the committee, and a builder could not therefore calculate whether the examination would be rigorous or accommodating. The Bench, although they considered the wall equally as strong as if the regulation had been observed to the letter, recommended an amendment of the by-law, but inflicted a fine of 5*l.* and costs. The nine other summonses were then withdrawn without prejudice. A few similar cases would be sufficient to bring the whole system of by-laws into disrepute.

It was anticipated that the works by the late Paul Baudry in the Paris Opera House would have been as remarkable in their way as the building which Charles Garnier designed. The painter devoted himself to the commissions with an ardour which, it is believed, was one of the causes of his premature death. Paul Baudry was unable to anticipate all the effects of the immense quantity of gas which was to be used within the building, and in consequence his paintings have deteriorated to an extent that is lamentable. During the last few years it has been stated that efforts were to be taken to prevent further damage. But if any attempts were made they were found to be hopeless. It is now proposed to remove the paintings, and, although they are little more than wrecks, to deposit them in one of the museums. Exact copies will take their place. A commission has been appointed to arrange for the removal, if possible, with safety, and among the members are M. Cassien-Bernard, the architect who has charge of the Opera House; M. Pascal, and the painters MM. Bonnat, Maignan and Guillemet; M. Rodin, the sculptor. M. Ambroise Baudry will represent the artist's family.

Another gathering-ground in North Wales is likely to be secured by the Corporation of Birkenhead. The necessity for a new water supply does not appear to be very urgent, for Liverpool could afford to share its supply with Birkenhead on reasonable terms. The Corporation, however, preferred to ask Mr. G. F. Deacon, who was connected with the Liverpool Waterworks, to devise a scheme by which 6,000,000 gallons could be obtained daily, and which if desired could be further enlarged. The site, which at present is not particularised, was described in a report by one of the officials of the Geological Survey as "essentially a rural district without large rivers, without any mines or centres of trade, and even without villages or market towns of any importance in an area of about twenty-five miles in length." It is well adapted for the construction of reservoirs, assuming that more than one is needed. The scheme has been submitted to several specialists who have approved of it. The cost of supplying 5,000,000 gallons daily is put at 700,000*l.*, but the quantity could be doubled by an additional outlay of 350,000*l.* The engineering estimate of total cost is 1,050,000*l.* One reservoir is to have an area of 6,500 acres, but there can also be two additional reservoirs. The action on the part of the Birkenhead Corporation is a commentary on the hesitation of London to secure a basin which will be adequate to metropolitan requirements.

The appearance of a picture by a Liverpool artist occasionally in the Royal Academy is not sufficient to convince amateurs about the existence of a school in that city. The exhibitions in Liverpool largely consist of paintings which come from studios in London, and they become more attractive than local works. It was therefore a happy thought to suggest that an historical exhibition of works by Liverpool painters should be arranged. For a century pictures have been produced with sufficient peculiarities to entitle them to be considered as forming a school, and we suppose there is little doubt that a collection of the works would give an impetus to local production. As the obtaining of works and their arrangement is an onerous task, it has been decided by the arts committee of the Corporation that the exhibition should be held in the earlier part of 1907 instead of in the present year. The Liverpool Academy of Arts will be invited to co-operate in the arrangements, which will be undertaken without delay.

ILLUSTRATIONS.

THE HOMAGE TO THE INFANT CHARLES V.

M. Albert de Vriendt was, like Charles V., a native of Ghent, and it was therefore a pleasure to him to depict scenes in the life of the great monarch who was once guilty of a pun by declaring that he could put all Paris in his *gant*. We have already published a plate after the painter's small but exquisite painting of the decorating of Charles V. with the insignia of the Order of the Golden Fleece, a work which received general admiration when it appeared in the Paris Salon. Although it is not generally known, the Emperor was likewise a Knight of the Garter, and came to Windsor in order to be installed. He lodged in Blackfriars, the palace at Bridewell having been assigned to his suite. On that occasion it was agreed that Charles was to marry the Princess Mary when she reached the age of twelve years. And not long afterwards he demanded her delivery to him. Subsequently a treaty of marriage was entered into between her and the great rival of Charles, Francis I. That was broken off, and after negotiations with others she became the wife of the son of Charles V. The Emperor was no friend to the Netherlands, nor, indeed, to any country in Europe that desired freedom. He has been made, however, the subject of many paintings, and if Albert de Vriendt had lived longer, he would have been inspired by other incidents in the Emperor's life.

MASONIC INSTITUTION FOR BOYS, BUSHEY, HERTS.—TOP OF TOWER—ENTRANCE HALL.

STREATHAM COMMON PUMPING STATION.

This was erected from the design and under the superintendence of Mr. J. W. Restler, M.I.C.E., formerly engineer to the Southwark and Vauxhall Water Company, and now the deputy chief engineer of the Metropolitan Water Board. The contractors were Messrs. Holloway Bros. Ham Hill stone dressings were largely used and Burham bricks for facings, with Suffolk bricks for arches. All white glazed bricks were employed in the pumping chambers, and a good deal of terra-cotta work both inside and outside by Messrs. Doulton. The circular engine-house is unique, and the boring was one of the deepest in the kingdom for this kind of waterworks. It went down to a depth of 1,271 feet into the older rocks, but the lower green sand was missing.

EVOLUTION OF LONDON COUNTY SCHOOLS.*

(Concluded from last week.)

WE submit a statement showing for the last seven years the number of new schools for which tenders were accepted, together with the accommodation, the total amount of the tenders and the total average cost a place :—

Year ended December 31.	Number of new Schools for which Tenders were Accepted.	Accommodation of Schools.	Total Amount of Tenders.	Average Cost per Place of Main Building Complete and Ready for Occupation (excluding Offices, Works on Site, Furniture.	Average Total Cost per Place (excluding Furniture, Supervision, &c.).
			£ s. d.	£ s. d.	£ s. d.
1899	11	9,113	256,580 5 6	17 16 11	24 7 2
1900	10	9,032	257,477 0 0	20 3 4	27 7 6
1901	6	5,188	121,828 0 0	20 1 0	28 17 1
1902	8	6,970	164,653 0 0	17 6 3	23 12 5
1903	18	16,521	367,829 10 0	15 11 3	22 3 6
1904	6	5,932	125,184 0 0	16 4 7	21 19 11
1905	3	2,820	61,300 0 0	16 9 11	22 4 5

We also append particulars relating to the cost of nine typical schools, the tenders for which were amongst the last accepted by the late authority, and in comparing the cost per place in the foregoing and in the following table with the cost per place in the Croydon and the Willesden schools, it it is very important to notice that the average accommodation in the London schools is much lower than that in schools under the Croydon and the Willesden authorities :—

County Electoral Area and Name of School.	Accommodation.	Date of Acceptance of Tender by late Authority.	Amount of Tender.	Area of Site.	Cost per Place (Main School Buildings only).	Total Cost per Place (including Centres, but excluding Furniture, &c.).
WANDSWORTH. Hearnville Road.	1,002	24-3-04	£ 17,146	Sq. Ft. 61,960	£ s. d. 13 12 6	£ s. d. 17 2 3
LEWISHAM. Stillness Road .	1,124	29-10-03	22,268	87,120	12 11 0	19 16 2
WANDSWORTH. Southfields . .	980	23-7-03	19,419	258,250	13 7 11	19 16 3
STEPNEY. Myrdle Street .	923 elementary 392 higher grade	28-5-03	29,031	39,185	13 12 9 elementary 27 6 5 higher grade	22 1 6 on both buildings
FULHAM. New King's Road	892	28-5-03	21,271	48,345	15 15 1 exclusive of special school	21 17 1 exclusive of special 23 16 11 with special school
WANDSWORTH. Broadwater Road	920	19-3-03	20,948	77,400	14 14 4 graded school only	20 19 9 without special 22 15 4 with special school
FULHAM. Macmurdo Road	1,142	24-7-02	24,950	77,855	16 7 11	21 16 11
WANDSWORTH. Ensham Street .	962	15-5-02	25,522	93,654	18 11 6	26 10 7
LEWISHAM. Kilmorie Road .	908	18-7-01	22,096	87,120	16 0 0	24 6 8

The average number of children accommodated in each of these schools is 1,027, the average cost a place of main school buildings only is 15*l.* 9*s.* 2*d.*, and the average total cost per place calculated on the total amount of tenders is 21*l.* 18*s.* 5*d.*

It should be noted that in none of the cases referred to in the above statement did the cost exceed the amount of the loan allowed by the Board of Education on the capital cost. This is the more noteworthy in that the loan for the main building was still only 10*l.* per child, with certain special allowances which were added from time to time.

When the question of reducing the cost of buildings to be erected for a certain purpose and of an accepted type is under consideration, there are only two ways in which it can be effected—(i.) by reducing the requirements or being content with a smaller or simpler building, and (ii.) by lowering the standard of the building. With regard to (i.) the required accommodation has to be provided in classrooms, graduated in size according to the numbers for which the school has to be built. These classrooms have to satisfy the code with regard to the number of superficial feet for each child, and the heights are also stipulated for ; proper entrances and exits, cloak-rooms containing a peg for each child, adequate lavatories, stock-rooms, teachers' rooms and offices have to be provided according to a scale laid down in the code, and, as each classroom has to be approached separately, it is evident that corridors or halls have to be provided for the purpose. If the school is planned with proper regard to its use for teaching purposes, the central-hall plan is the best and most economical, by reason of the fact that, if properly arranged, the hall supplies the place of corridors, and, as the head teacher's desk is placed therein, proper supervision of the whole department is secured. The value of the central hall for school work has been so thoroughly appreciated that it has been decided to spend a yearly sum in providing these and other modern adjuncts to the schools built in the earlier years of the late authority and not provided with them.

As regards the provision of rooms for special purposes such as art, science, manual and domestic work, it would appear that an art or drawing classroom is not now considered a necessary adjunct to every elementary school, but that a room for general science is desirable. As regards manual training-rooms, it is a question whether such rooms should be built for forty or twenty boys, or should be in the nature of centres for groups of schools or adjuncts to each school. As regards housewifery centres, we cannot consider an ordinary domestic house suitable therefor, and certainly their construction is never such as to fulfil the requirements of the Building Acts for a public building, which they undoubtedly become as soon as they are used for teaching purposes.

With regard to (ii.) when the alternative tenders, which are about to be obtained for three new schools sanctioned by the Council, are received, there will be an opportunity of ascertaining what the savings under the various heads of the revised specification will amount to. The principal suggestion is for building the brickwork in lime mortar instead of cement. Whatever the saving may show under this head, the late authority and the Council has had experience of the cost and inconvenience involved in repointing buildings, inevitable after a certain time when built with lime mortar ; the cost in the case of a school of the ordinary size and type is about 350*l.*, with the nuisance from the dust caused by the raking out of the joints and the erection of scaffolding and the presence of workmen on the premises during school hours, and the consequent risk of accidents. Again, piers carrying girders and heavy weights must be built of a larger size if not in cement ; so that, taking all these matters into consideration, we cannot consider the saving on the initial cost desirable, especially considering that the after expenses would fall on the rates of the year.

For a proper comparison to be made of the cost "per place," the cost should be based, not on total cost, including the site, but on the main buildings complete and ready for occupation. The site difficulty affects the total cost so much that the whole calculation is vitiated by having to deal with such sites as Plum Lane (Woolwich), Invicta Road (Greenwich), New End (Hampstead), and others, whereas level rectangular sites like Townmead Road (Fulham) and similar ones present no unusual or costly difficulties. Further, taking the maximum size of a department as for, say, 300 children, and building originally for, perhaps, 200, the hall is built of the requisite size for the full number to be accommodated in the completed school. Generally the cloak-rooms, teachers' rooms, lavatories, &c., are also built complete, and this provision for future requirements, while it adds to the initial cost, is really a considerable saving to the Council, as when the additional classrooms are erected the further cost is about 7*l.* 10*s.* per place.

The true test of the cost of a building is its cost per foot cube on the main building, and we venture to assert that no buildings of a public character have been built in the manner in which schools have been erected at a smaller comparative cost. The architectural features of an expensive nature have been reduced to a minimum, and effect obtained by carefully studied proportions and grouping. By way of illustration, three types of schools built within the last three years are given below :—

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* From the Report of the Education Committee.

Electoral Area and Name of School.	Storey.	Accommodation.	Cost per foot cube (main buildings complete and ready for occupation).
Wandsworth. Broadwater Road .	3 storeys	920	d. 7.90
Fulham. New King's Road .	Ditto	1,148	8.31
Dulwich. Denmark Hill . .	2 storeys (graded departments), 1 storey (infants)	996	7.83
Wandsworth. Wandle, The . .	Ditto	1,140	8.85
Southfields . . .	1 storey buildings . .	1,126	6.70
Fulham. Townmead Road .	Ditto	1,124	7.14

We feel confident that, upon a comparison being made between school buildings and buildings erected by the Council for other purposes, the result will be favourable to the schools.

With regard to the planning of the schools and their fitness for teaching purposes, it may be stated that the architect to the Board of Education has published, with permission, plans of some of the modern schools of the Council as types of what such buildings should be. In this connection we think it would be of interest to the Council to have before it when considering this report a sheet of diagrams (which will be laid upon the table) showing various types of schools of which we present the subjoined explanations :—

A and B represent elevation and plan of the Trundley's Road school (Deptford), a building designed with an effort to reduce cost by erecting a school without any architectural features—simply of plain stock bricks, slate roofs and without architectural embellishments of any kind ; at the same time obtaining the standard of building and the completeness of plan by which a satisfactory school building, apart from its external appearance, is secured.

C and D represent the elevation and plan of a type of school in which the architectural adornment was carried beyond the general standard of the late authority, the walls being faced with red brick and terra-cotta being introduced to a considerable extent.

E and F is a type of school similar in plan to D, and designed in a similar manner, the walls being faced with stock bricks with red arches and dressings to the windows, terra-cotta being introduced sparingly and the roofs covered with red tiles. The cost of a school of this design as compared with A works out at about an additional 5 per cent. on account of the architectural features, and is a type which was reverted to by the late authority in preference to the bare and barrack-like appearance of A.

G is a plan of a school which was worked out to embrace the minimum of the requirements of the Board of Education for a school of that number. It has been a type adopted with more or less unimportant modifications at Stillness Road (Lewisham), Southfields (Wandsworth), Deansfield Road (Woolwich), Timbercroft Road (Woolwich) and other sites where the area was sufficiently large to admit of the erection of one-storey buildings. This is a plan which the architect to the Board of Education has illustrated as the type of an ideal school, and it will be observed that corridors giving access to the classrooms are eliminated altogether, the central hall answering the purpose, giving complete control and supervision over every classroom. It is also a type which is mentioned as costing 6.70*d*. per foot cube, being in our opinion about the cheapest type of school which can be erected.

Conclusions.

There are so many special features to be taken into consideration in regard to the area, the shape and adaptability of each site and the situation of the school thereon, the accommodation required for each department, and the need for future enlargement, that it is not possible to estimate closely the cost which will be incurred in respect of any school proposed to be erected until the plans have been prepared and the quantities taken out. There is no doubt that in many cases the elevation of the school and the architectural features in connection therewith have not been designed with so strict a regard to economy as to the pleasing and dignified appearance which has enabled a school to adorn the neighbourhood in which it has been placed. In this connection the Oliver Goldsmith school, Peckham Road, may be cited as a case where the late authority indulged more freely in ornament, because the Camberwell Metropolitan Borough Council appealed to the Board to put up a building in harmony with the importance of the thoroughfare.

As regards the sanitary fittings and arrangements in connection therewith, there appears to be a general impression that these could be of a considerably less costly description, approximating more closely to one of the standards in use in the erection of dwellings for the working classes. We venture to point out that this impression is hardly borne out by facts, and that such a standard would scarcely suffice in view of the rough usage to which the school fittings are liable to be subjected. Further, the comparison hardly applies, inasmuch as in the case of the dwellings one closet only is required to each, and the number of closets in the lodging-houses is small as compared with the liberal supply in the schools (provided in blocks and required by the code of the Board of Education). When it is remembered that the total number of separate closets amounts to about 6,000 or 7,000, the importance of having a substantial and durable type of fitting, pan, &c., in the first instance provided out of loan will be readily appreciated, especially when it is recollected that the cost of all subsequent repairs—thus reduced to a minimum—comes out of the rates of the year. The use of iron drains will be abandoned except where the drains pass through made-up ground or under buildings.

As regards wood-block flooring, we propose to effect a saving under this head by substituting in the classrooms flooring on fillets on the concrete, thus limiting the use of wood-block flooring to the halls and corridors only. It is also proposed to reduce somewhat the cost of the glazed bricks by providing these dado high only in the corridors with plastered walls above.

The playsheds will without material disadvantage be simplified in construction and reduced in cost by the use of iron columns.

The standard pattern of sashes and fittings, together with substitution of cords, pulleys and quadrant stays for the present metal window gearing, will be provided for.

We do not advise that the specification should be altered in regard to the requirements for "picked" stocks, the saving in cost being so trivial. This remark applies also to the cisterns in view of the material sanitary advantages gained, as compared with the use of ordinary cisterns in lead or galvanised iron, to say nothing of the saving in labour in cleaning.

The instruction to obtain from warming engineers competitive schemes for providing systems of warming by low-pressure hot-water apparatus is already being followed in the case of the new schools in course of erection on the sites in Senrab Street (Stepney) and Sellincourt Road (Wandsworth). It will then be possible to obtain a comparison in cost with the present systems, and should a saving result, the usual provision now included for warming can be reduced. We propose to look carefully into this question and to submit a further report thereon at a later date.

We have instructed the architect (education) in all future cases to lay before us a report showing the estimated cost of all portions of the proposed buildings above the floors actually occupied for ordinary teaching purposes. We also propose to consider carefully in each case whether expenditure can be reduced by the omission of rooms for art classes, and ordinary drawing classrooms in the roof. By the omission of this storey there will be a saving of as much as possibly 800*l*. or 900*l*. in the cost of a school, while by making reductions in the cost of carving and general architectural embellishments in all suitable cases, by excluding as far as practicable from the specifications the use of special patented articles, and by making the other reductions already alluded to, we hope to effect a further saving. It must, however be borne in mind that while the provision of a roof playground adds very materially to the cost of the school, it is only arranged in those cases where the site is small and the cost of additional land is prohibitive, and to that extent the extra cost of building is the result of a saving in the expenditure on the site.

We have also decided to throw the tenders open to public competition more frequently, though there are manifest advantages in confining the competition to a large selected list of contractors who are acquainted with the special requirements of this class of work.

We think that the experience gained on many points while engaged in this investigation will result in a decrease in the future cost of erection of public elementary schools without detriment to the necessarily high standard of quality and efficiency which the Council should maintain. We have had submitted to us plans of a typical school for 1,176 children, consisting of three one-storey buildings to be erected on a perfectly level and large site to be selected, requiring no retaining walls or terracing nor extra deep foundations, the boundaries being of oak fencing instead of a brick wall, and the specification providing for the reductions already agreed to by the Council and the further modifications suggested in this report. The cost of a school of this design is estimated as follows :—

Main school buildings complete 13,664*l.*, equivalent to 11*l.* 12*s.* 4*d.* a place.

Main school buildings, including enclosing and draining site, &c., 17,834*l.*

Total cost, including possible extras, lithography, furniture, supervision charges, &c., 19,659*l.*, equivalent to 16*l.* 14*s.* 4*d.* a place.

The cost per foot cube is 6½*d.*

We desire, in conclusion, strongly to represent to the Council that it is a very extravagant proceeding to plan schools for subsequent enlargement in growing neighbourhoods, instead of building the complete school at once, where it is known that the full accommodation will be required in a short time, but we have up to the present been unable in these cases to obtain the sanction of the Board of Education to build slightly in advance of actual immediate requirements.

THE QUANTITY SURVEYORS' ASSOCIATION.

THE annual general meeting of this Association was held on Wednesday, May 30, at the Holborn Restaurant, the president (Mr. Walter Lawrance, F.S.I.) in the chair.

The minutes of the previous meeting were duly read and confirmed, and the result of the election for members of Council for the ensuing year declared, showing the following elected as London members :—Messrs. A. J. Gate, F.S.I., A. G. Cross, F.S.I., W. R. Hood, F.S.I., H. England, R. L. Curtis, jun., H. W. Crickmay, W. W. Barber and S. Chatfeild Clarke, F.S.I.; as provincial members, Messrs. H. Curtis-Card, F.S.I., R. J. Tollit, Arnold Harris, F.S.I., and W. Hoffman Wood.

The President, reviewing the work done by the Council during the past year, congratulated the Association upon the steady increase of membership, the total number on the roll being 155 members and four students, and also upon its eminently satisfactory financial position. Out of 15 candidates who entered for the examinations, which by the courtesy of the Governors were held this year at King's College, the following passed the direct final examination :—Messrs. G. Sylvester Taylor, E. G. Huggins, W. G. Walder, L. C. Veale, A. Stratton and F. M. Gilbert; while in the preliminary examination qualifying for admission as students the following satisfied the examiners :—Messrs. D. A. Roberts, E. T. Parr and Donald Hewitt. An examination was held simultaneously in Pretoria, the results of which had not yet been received. A rather important departure had been made in the professional examination this year by the elimination of papers on abstracting and billing, an additional day being devoted to the subject of "taking off." After alluding to the useful work done by the committee on professional practice, which had dealt with a considerable number of questions raised by members, and to the formation of the Belfast Quantity Surveyors' Society, of which body the original members are also members of this Association, the President stated that in order to redeem the promise made to the members a year ago the Council had recently issued a scale of fees which, however, is intended to apply to works undertaken for public bodies only. This scale of fees has been sent to upwards of 1,800 public authorities in England and Wales, and from the numerous replies and letters on the subject the Council has received, it is hoped that it will be generally adopted, and so to a great extent that undesirable practice of a public body inviting men to tender for the supply of their professional services will cease, although the Council admits that its failure to secure the co-operation of the Surveyors' Institution towards mitigating this evil is a matter for regret. The President next referred to the "Standardisation of Quantities," saying that this question had been under consideration by the Council practically since the formation of the Association, and had been fully discussed after a paper on the subject had been read by Mr. A. G. Cross. Subsequently a paper by the late Mr. John Leaning was read at the Surveyors' Institution, and letters on the same subject had appeared in the professional papers. The Council recognises that, except with the co-operation of the other bodies interested, it is impossible to move in the matter, and has therefore approached some of the leading institutions or societies to whom this question should appeal with a view to the holding a conference on the subject. Pending the receipt of definite replies the matter must remain in abeyance. An expression of his own personal regret and the regret of the Council generally at the resignation of Mr. F. B. Hollis, the late honorary secretary and treasurer, and an expression of his thanks to the members and to the Council for their courtesy during the two years in which he has occupied the chair, brought the President's speech to a conclusion.

Mr. H. T. A. Chidgey, in moving the adoption of the Council's report and balance sheet, congratulated the Council upon its year of office and the work accomplished. He associated himself with the President in his expression of regret at Mr. F. B. Hollis's resignation, and referred to the great service Mr. Hollis had rendered to the Association from its conception. Although very glad that the Council had issued a scale of fees intended to be used by public bodies, the Council was in his opinion very wise in not publishing one which would apply to private work.

Mr. W. R. Hood, F.S.I., who seconded the motion, hoped that the Council's report would be criticised by the members present, as the Council would then feel that live interest is being given to the Association.

Mr. C. W. Ball (Southsea) expressed the fear that the Council's action in issuing the scale of fees broadcast among public bodies would prove to be inimical to the interests of some of the members. His work lay almost exclusively among public bodies, and the fees he received were very considerably in excess of those laid down in the scale.

The President, in reply, stated that if Mr. Ball practised in London he would very soon learn that the majority of London authorities pay ridiculously inadequate fees to their quantity surveyors, and instanced a recent experience of his in which he was asked to quote for preparing the quantities for some building for a London Borough Council. The building was to cost 3,000*l.*, the quantity surveyor was expected to correct the specification, and his charge was to include the supply of fifty copies of the bills. The lowest tenderer (happily not a member of this Association) was appointed to do the work at an inclusive fee of 28*l.*

Mr. R. J. Tollit, as a provincial member of Council, wished to assure Mr. Ball that the interests of the provincial members were not neglected by the Council. He personally heartily agreed with Mr. Ball in his statement that the scale of fees which had been issued was a very low one, and that, as the outcome of its publication, some of the provincial members would suffer, and for this reason he had opposed its issue. From some of the statements made by members of Council while the matter was under discussion, and also from the President's remarks that afternoon, he had arrived at the conclusion that London quantity surveyors accepted very small fees indeed.

Mr. T. Woodbridge Biggs, who supported the motion for the adoption of the report, expressed his regret that he had reached the meeting too late to hear all the President's speech. He stated, as his opinion, that if the newly-issued scale of fees was thoroughly established as a recognised scale in London (which will be a very difficult matter to achieve), and the provincial surveyors can support it and get similar fees for themselves, the provincial members would be in an infinitely better position than the London members, as the cost of preparing the work (always done at high pressure in London) is lower in the provinces.

The motion was then carried unanimously.

A vote of thanks to the auditors, Messrs. E. D. Nixon and H. J. West, F.S.I., was then passed on the motion of Mr. W. R. Hood, F.S.I., seconded by Mr. C. A. Kennett, P.A.S.I.

Mr. England moved a vote of thanks to the scrutineers, which was seconded by Mr. E. A. Wylie and carried unanimously, to which Mr. C. A. Kennett suitably replied.

Mr. A. J. Gate, F.S.I. (vice-president), in proposing a hearty vote of thanks to the President, referred to the arduous duties Mr. Lawrance had performed on behalf of the Association during the last two years, and to the difficulties and the opposition with which the Association had to contend at the outset of its career. But for the tact and skill the President had displayed the Association would not have been carried through some of its earlier troubles.

Mr. A. G. Cross, F.S.I. (hon. sec.), in seconding the vote of thanks, remarked that future generations of quantity surveyors would recognise what a debt of gratitude they owed to Mr. Lawrance, the first president of the Association, the existence of which Association was, in his opinion, essential (he felt almost justified in saying) to the continued existence of the quantity surveyor.

The President, in replying, thanked all those with whom he had been associated during the time he had had the honour of being President, and hoped that the members would adhere to the scale of fees the Association had issued, whatever self-sacrifice that course might entail.

The meeting then terminated.

A Council meeting was subsequently held at which, we learn, Mr. A. J. Gate, F.S.I., was elected president, and Mr. H. Curtis-Card, F.S.I., and Mr. W. R. Hood, F.S.I., vice-presidents, for the ensuing year. Mr. H. T. A. Chidgey was elected to the vacant seat on the Council caused by the resignation of Mr. A. G. Cross, F.S.I., who was elected hon. secretary.

AN EGYPTIAN CAMP.

IT is announced in the *Times* that at Tell el Yehudiyeh Professor Flinders Petrie has excavated an enormous earthwork camp. This camp was constructed before 1500 B.C. by a nomadic people, who were entirely ignorant of construction in stone, brick or even wood, and who trusted entirely to archery for their defence. They had no pottery in common use, and therefore used vessels of leather and of wood. As many graves of the Hyksos age were found, the earlier inside the camp, the later in a cemetery outside, and as the whole region has produced more scarabs of the Hyksos than of all the other ages of Egypt, it is obvious that the nomads who formed this camp were of this mysterious race.

The camp is a great earthen enclosure, quadrilateral, with rounded corners, much like many earth camps in other countries. It is about 1,500 feet across, with a bank about 200 feet thick at the base. This bank was faced outside with a slope of white stucco 70 feet or 80 feet long, at an angle of 35 to 45 deg. But the makers knew nothing of a gateway; the use of brick or wood did not enter into their scheme of defence, and their way of entering the camp was to make a sloping road about 200 feet long, rising up over the great bank of the camp. Flanking walls were thrown out on each side of the sloping entrance to enable archers to rake the road sideways at close quarters. We have here evidently a people in the well-known stage of culture of Central Asian nomads; great archers like the Scythians, Persians, Parthians or Turcomans, but depending entirely on earthwork for defence. After two or three generations in Egypt the system of fighting was entirely remodelled. The advantage of the walled forts of the Egyptians was recognised, and an immense stone wall over 40 feet high, 6 feet thick and a mile in length was built around the earthwork, and earth filled in between that and the sloping face. But yet the old sloping entrance road was kept, and gateways in the wall were not accepted. Every point that we learn agrees exactly with the account of Manetho, when he states that the Hyksos were barbarians who within a hundred years organised a firm government and built a great walled camp. It is probable that this camp now before us is indeed the celebrated city of Avaris, but the details of the identification cannot be entered on here.

AN AMERICAN HOTEL ARCHITECT.

A CONVERSATION with Mr. Henry Janeway Hardenbergh is related by Mr. Sadakichi Hartmann in the *Architectural Record* of New York for this month, from which we take the following :—

We at once settled down to serious business, to an interview, one of those old-fashioned, matter-of-fact interviews that have really taken place and are in no way masked with inadequate ornamentation.

"I believe you studied with one of the old New York architects, Detlef Lienau by name?" was my first turn of the key.

"Yes, he was a remarkable man for his time," and Mr. Hardenbergh's face was lit up for a moment as with pleasant recollection. "Of course, building—I entered Lienau's office in '63—had not yet reached such dimensions in New York as it did in the following decades. But he did good, solid work, notably in the French Renaissance. I do not remember at this moment all he did. One of the best specimens is that old residential dwelling, Tenth Street and Fifth Avenue."

"You never studied abroad?"

"No, I never got to Europe until after quite a number of years of active practice."

"Then your case seems to prove that a man can become an architect without studying abroad?"

"Emphatically, yes," he exclaimed with peculiar emphasis, that did not solely betray conviction, but also pride in what he himself had accomplished. "It only depends on how one studies. For that matter, one could live at the seashore and become a good architect. Of course, there were drawbacks; books and photographs were scarce at that time. The facilities for reproductions were still slight. I remember how delighted I was when I got my first collection of Parisian buildings; I thought it a rare treasure."

"But are you not of the opinion that there are too many publications nowadays?"

"Decidedly so. The young men rely too much on their assistance. They go from one book to the other, and get a little bit here and a little bit there, but do not understand how to put them together."

"I suppose you served a real German apprenticeship at Lienau's?"

"Yes, it was a true apprenticeship. Conditions were different. He had never more than six men in his office. He could really devote some time to them. Now many offices have forty to fifty men on their pay-roll."

"I know of one firm which several years ago had as many as ninety-three draughtsmen in their employ. This, I suppose, makes personal instruction impossible in these days?" I interpolated.

"Absolutely! I have not more than ten minutes a day to give to the younger men; but they learn from the older draughtsmen," he said, after some reflection. "Yet without arrogance, only with due respect to my way of doing things, I can say that I have done my work with a smaller clerical force than most offices. If you have too large a force, you have to depend too much on other men. You lose touch with your own work. The individuality of one's style is apt to suffer thereby."

"You are particularly interested in municipal art?"

"Yes, I was one of the founders of the Municipal Art Society."

"And if I am not mistaken, you individually have also helped matters along on that line?"

"Yes, I have always regarded mural decoration a part of architecture, and always tried to persuade my clients that there was a necessity for such a thing. At the Waldorf-Astoria we simply gave out the work. I had made up my mind to have Blashfield, and insisted until I got him. At the Manhattan, in order to avoid what might look like favouritism, I managed to arrange a competition with a thousand dollars in prizes. Five artists competed."

"How did the painters adapt themselves to the work?"

"Of course, it was a new experiment with them. They all 'paint' a trifle too much. They do not seem to be able to adapt themselves to their environment, to any particular style. There are hardly any of them who understand ornament. Simmons seems to get nearer to the real thing than any of them. And even he is still too much of an easel-painter. Look, for instance, at this little panel," and he pointed to a canvas by Shean over the mantelpiece, representing *The Architect and his Client* in Mediæval costume and surroundings. "It is very nice, well painted, but hardly mural in feeling."

"You seem to have made a specialty of hotels?" I asked, remembering that we owe to this architect the popular structures of the Waldorf-Astoria, the Manhattan, the Dakota and others.

"Yes, it seems to have been my fatality that things have come that way. I have built a large number of them. But I have also done a good deal in apartment houses, and lately in office buildings. To show you how eclectic an architect really has to be :—One of my first commissions was a Gothic chapel for Rutger's College in New Brunswick, my native town. Soon after came a row of Ohio limestone dwellings. About the same time I constructed a Turkish bath in the private house of a gentleman. It was done all in the Pompeian style. I had the entrée to the Neo-Grec through Lienau. Lienau was a pupil of Labrouste, the architect of the Ste Geneviève library in Paris, and the hospital at Lausanne, who effected a successful combination of the modern French and Neo-Grec. You will notice in all the works of the French architect a certain simplicity and severity of detail."

Labrouste was one of the first who succeeded in the employment of modern building materials thoroughly in accordance with beautiful form and original ideas. Through Lienau his skill and cultivated taste has descended upon Hardenbergh, who thereby was prepared to avoid the reefs on which so many of our modern architects have suffered shipwreck. My remarks gave Mr. Hardenbergh an opportunity to express his views on the modern French.

"I have always been charged, though unjustly, of being opposed to the modern French. This objection applies only to later work in the style. They can't go much further. It is all for sensational effect and will end in sheer brutality. Their ornaments," and he made a descriptive gesture, "are crude and clumsy. There would be no objection if they would stick to the fine examples of the past, but this way——"

"Do you think the New York architects set the taste for the whole country?"

"I think so. When Richardson had built his Trinity Church you saw bad Richardsons cropping up all over the country. For instance, in Chicago it was simply awful. Of course, we all do incongruous things in our time. They lately tore down a building of mine, of which I felt very proud at the time it was built; but I was really delighted when it was gone."

"Do you think we will arrive at more uniformity of style?"

"Possibly," he remarked, rather drily. "Conditions and needs will bring it about. But elements of new formations must necessarily be based on reminiscences of those already existing."

"And at present these reminiscences seem to be all modern French," I insinuated.

"Not entirely; the Classic movement is very strong. Nearly everything that some of our leading architects build of late has the characteristic columns and the tympanum on top. I myself am very fond of the German Renaissance. Not when it was loud, overloaded with ornaments, but modified. I also have a liking for the Dutch Renaissance," and he showed me a sketch of the New York Club. In its elegant simplicity it reminded me slightly of the building of the Fine Arts Society, which I consider one of Hardenbergh's masterpieces.

"Yes, that was really a work of love," he explained. "If it only could have been placed differently. The apartment house next to it spoils much of the effect. The model for it was a François I. in the Cour de la Reine, Paris. I only saw it two years ago, long after the New York building was finished. I had been in Paris before, but had missed it. And when I at last made it my object to see it, I was highly delighted."

"How is it with more utilitarian buildings? Do not the difficulties of the internal arrangement take so much thought and time that there is comparatively little left for the consideration of the art element?"

"Not in the least," he said most decisively. "You see, the laying out of the plans of lighting, heating, &c., one has after all to leave largely to the engineers. No man can do that all by himself."

"You try to make the interior correspond as much as possible with the outside; it seems to me that the latter is often merely a shell."

"Yes, that is a fault that I find with many buildings. But I always try to bring everything into a certain harmony. Of course, in a hotel all tastes have to be satisfied, and one must know pretty well how the space is going to be utilised before one can realise the artistic vision of the outward appearance of a building. The architect has to deal with three factors, all of equal importance—first, the artistic element; second, construction; and third, interior decoration. It is just as in music, a certain *Leitmotif* should run through everything. Otherwise it would be merely a collection of miscellaneous details, as you have correctly said, a husk, a shell. The trouble is, that we are always in such a hurry in this country. At times this may prove a stimulant. One simply has to go, work and do it. But if it comes to details of ornamentation or interior decoration it is deplorable. The outside of a building should always indicate what is inside. Look, for instance, at those big windows over there," and he pointed at the Waldorf-Astoria as an object lesson. "You feel that there is a big assembly hall behind them, and so it is with everything. The windows of the various parlours are still large in comparison with those of the ordinary rooms, but much smaller than those of the ball-room."

This emphasised a trite architectural truth, that the outside forms must be characteristic of the aim and object of the interiors, which they hide from view.

"How do you think our architecture compares with the European? Do you think we have as much claim to originality?"

"I am certain of it. And that is said without any conceit or partiality. In England they are not handicapped by space, as we are here, and they have quite a number of beautiful buildings to their credit; but they are not more frequent than on this side. L'Art Nouveau in France was a failure. The rest is entirely under the influence of the modern French. In Italy they live largely on Classic traditions."

"Have you been at Cologne? There they seem to have produced a great variety of forms."

"Yes, but that is Belgian influence. The Dutch Renaissance is very adequate."

"It always seemed to me that the new Court House in Brussels is a very fine specimen of modern architecture."

"Very impressive. The combination of Assyrian and Classic styles shows very much ingenuity, but one can hardly call it good architecture. No, I think we are fully awake over here. And in the specialty of residential houses, of office buildings and hotels, I think we have accomplished what nobody else has done. We have adapted ourselves to new conditions, both æsthetically and in accordance with style."

"Have you any special method in following out your theories?"

"My method is really a very simple one. There, for instance, is a sketch of the new Plaza Hotel," and he showed me a sketch of that giant caravansary. There seems to be a striking tendency in this latest of his work to abandon the picturesqueness and irregularity of his former style, and to arrive at a simpler and at the same time more pleasing effect. I had involuntarily to smile, however, at what seemed to me interminable rows of windows. He guessed my thought. "None of them is unnecessary. Now, what would be the use of introducing columns, colonnades, as they do? The Greek didn't build buildings of this kind. Edifices of this order have been unknown to past generations. They have no prototypes. All one can do is to take some good model, that served some kind of purpose as a hotel, and enlarge upon it, and then embellish it as well as one can, as, for instance, in this case, with the early French Renaissance."

BUILDINGS IN GARDEN CITIES.

In the *Journal of the Sanitary Institute* for June is an address by Mr. H. D. Searles-Wood, which is a comment on Dr. B. W. Richardson's description of a city of health.

Taking the question of height of buildings, says Mr. Searles-Wood, I was struck the other day looking at some photographs of Winnipeg, one of the latest developed cities in Canada, to see that they were building houses of twelve and fifteen storeys, and when I was told later that land in the centre of the city was sold at the highest price per foot ever given for land, it seemed all the more strange. Apparently there is no physical reason, like the island site of New York, to account for the larger buildings. Winnipeg is situated on a plain that affords boundless means of expansion.

The modern experience of manufacturers, however, is in favour of even one-storey factories when the price of the land is not prohibitive, and I know of some factories which cover an acre of space all under one roof. The advantage of this, from a manufacturer's point of view, is ease of supervision. The question of adequate means of escape in case of fire and the proper ventilation and heating of such big cubic contents raise novel points, but should not be difficult of solution. The system of construction is a series of ridge and furrow roofs, carried on iron supports.

The question of limit of area to buildings of this class is being rapidly brought to the front in the sheds which are required for storing and attending to the motor-buses that are being erected in the outskirts of large towns, the Building Act limit of 250,000 cubic feet being much too small.

The method of raising all buildings on arches above the ground has been practised for hospital buildings, but has not been used for private dwellings owing to the cost; it has much to recommend it, only the space underneath the house must be sufficiently high to make it get-at-able and so kept clear of rubbish, and until the people are educated up to the appreciation of absolute freedom of air circulation around their houses the space would be sure to be the store-house of all kinds of rubbish.

The perforated bricks described by Dr. Richardson have been used, but have not taken hold on the public. One of the objections to them is the way they behave in cases of fire, the face of the brick flying off when the brick is heated and water is turned on. With regard to the case of glazed bricks for the internal surface of walls and ceilings, I think experience has shown that a glazed surface such as those present does not make a comfortable room to occupy, and the usual method at present adopted is to confine the glazed work to a dado about 4 feet high, and above that to use plaster and some kind of paint or distemper.

The use of concrete blocks made with air-spaces inside is being advocated and it forms a cheap and useful method of building; one of the best of the 150*l.* cottages built at Letchworth was built of this material. Reinforced concrete, that is, concrete in which steel bars are introduced, in position to take up the strains, is making rapid progress, and some notable buildings have recently been erected in this way, the advantages being that the constructive work is practically homogeneous and the steel is adequately protected in the case of fire. But it must be borne in mind that the element of weight in our solidly-built brick structures is not entirely useless, and if the slighter methods of construction which reinforced concrete allows be employed, the question of wind-pressure has to be taken into account and the building adequately braced to counteract it.

The method of treating the smoke by connecting all the flues with central shafts where the smoke is driven through a gas furnace, the free carbon is destroyed, and the products of combustion discharged colourless into the open air has not yet been tried, but at the recent Smoke Abatement Exhibition a patent was shown which did this in the individual flue; in the 4-inch iron smoke shaft a combustion chamber was inserted, the smoke passed through and the whole of the free carbon destroyed.

The flat roofs advocated have been tried, and not always with success. The usual method is to cover the space with concrete and lay the asphalte on the top, but care must be taken to prevent the expansion of the concrete pushing the walls out; I knew of this being the case in a building erected by the London School Board in the South of London; the flat roof of the building expanded and pushed the walls out of place. Another objection is that if no false ceiling is made to the rooms under, the moisture in the air is apt to condense on the ceiling.

There is a new method of roofing by means of a material called ruberoid, which is a preparation of indiarubber laid in two or three thicknesses and covered with gravel; when skilfully laid this makes a cheap and durable roofing material, but I have not heard how it behaves in case of fire.

The suggestion of placing the kitchen at the top of the house has been tried, but has not met with public approval, and I think that there are obvious drawbacks.

The hospital with the wards made to be easily taken down and disinfected has yet to be realised, but there is much to be said in favour of a simpler style of building for the treatment of disease.

I hope I have not tired you by dwelling so long on Dr. Richardson's address, which, although often referred to, is, I fancy, but very little read nowadays.

At the recent conference on garden cities, Mr. Lever advocated the standardisation of cottage buildings in order to cheapen the cost of building. There is no doubt that a saving can be effected by making the various parts of a house, such as the doors, windows, staircases, &c., in uniform series, and the general dimensions of rooms are more or less fixed; but I think it is to be hoped that such a system may not result in the dreary monotony with which we are unfortunately so familiar in some of our London suburbs.

The exhibition of cheap cottages at Letchworth last year has, I am afraid, given rather a wrong impression; the garden city there is one thing and the cheap cottage exhibition was another, and in many ways the exhibition showed what to avoid rather than what was the latest idea on the subject. As this exhibition was the subject of a paper by Mr. Aldwinckle and Dr. Sykes, I do not propose to touch on it to-night, only just to make these remarks in passing. In a circular widely distributed, giving designs and particulars of cheap country cottages, the walls of which are of timber framing either covered with weather-boarding or corrugated iron, the following note is interesting:—

"Building By-laws.—With certain exceptions, it is our experience that, provided these timber framed dwellings are beyond certain specified distances from other structures, permission is not withheld. In many cases an undertaking to remove the buildings within ten years if called upon to do so has induced the Council to pass the plans. As can be understood, this in most instances eventually means that the buildings are allowed to stand for an indefinite period."

I have always understood that the objection to buildings of this class was not so much their liability to fire as that this method of construction was not suitable for human occupation; on account of the walls and roof being such good conductors the buildings were too hot in summer and too cold in winter, and that they are very liable to become verminous; but it is evident that a good many of these buildings are erected and occupied, and the public authorities, such as the London County Council, in their lunatic asylum at Horton, have made use of this method of construction; the building has been occupied for several years, and it has been found to be quite satisfactory. It is curious to note that in such hot places as Suez and Western Australia corrugated iron is used for the roof and walls; in fact, there is hardly anything else used in Western Australia on account of the scarcity of water; every drop of rain has to be saved, and therefore the most non-absorbent material used for roofs.

The address was illustrated by fifty-four lantern slides.

ROYAL INSTITUTE OF ARCHITECTS OF IRELAND.

A SPECIAL general meeting of the Royal Institute of the Architects of Ireland was held last week at the Institute Rooms, 20 Lincoln Place, Dublin. The president, Mr. W. M. Mitchell, R.H.A., occupied the chair. There were also present:—Messrs. C. H. Ashworth, James H. Webb, H. Allberry, R. Stirling, G. F. Beckett, C. H. Mitchell, Frederick Hayes, George L. O'Connor, James Louis Donnelly, R. M. Butler, W. Kaye Parry, F. Shaw, Frederick Batchelor, Sir Thomas Drew, Frederick G. Hicks, Edwin Bradbury and C. A. Owen, acting hon. sec. Mr. J. M. Mitchell and F. H. Tallan were admitted as members, and Messrs. C. H. Ashworth, Frederick Batchelor, Vincent Craig, Robert Cochrane, F. G. Hicks, A. Hill, W. H. Hill, R. Caulfeild Orpen, C. A. Owen, George P. Sheridan and W. J. Fennell as Fellows. The question of increasing the subscription was considered at some length. The meeting decided, on the proposal of Sir Thomas Drew, seconded by Mr. C. A. Owen, to officially adopt the amended conditions of building contract, as recommended by the Council, after having had the matter under consideration for a long period, and submitting same to counsel. Mr. Ashworth called attention to some objectionable features in the Bill lately introduced into the House of Commons by Mr. Bryce, and the matter was referred to the Council to take action thereon.

THE GUILDHALL LIBRARY.

IN his annual report on the Corporation records, the town clerk states that the calendaring now in progress is likely to prove of more than ordinary interest to the student of London's municipal history, covering as it does the reign of Richard II. when the Courts of Aldermen and Common Council underwent constitutional changes of a drastic order and the City was torn by party faction under the leadership of Nicholas Brembre and John de Northampton. The citizens were divided in their allegiance to the king, who was apt to interfere at times in municipal elections; they were still more divided as to the fishmongers and other victuallers being allowed the upper hand in civic matters. Brembre was by trade a grocer of a livery company, and was one of the king's strongest supporters. Northampton was a draper, and supported the Duke of Lancaster and his party. Both suffered imprisonment and were condemned to death, although only Brembre was executed. The tracing of the fortunes of these two distinguished aldermen of the City and their respective parties—the victualling and clothing trades—in their attempt to supplant each other forms an interesting feature of the calendar. The condition of the records was satisfactory. The total number of readers and visitors at the Guildhall Library was 383,932—a daily average of 1,417. The additions to the library amounted to 926 manuscripts, 1,958 printed books, 330 pamphlets, and fourteen maps and prints. The records of the parishes of St. Alphage, London Wall, and St. Botolph, Aldersgate, and of Bishopsgate Ward had been deposited in the library. The Corporation had expressed its willingness to accept from the Dickens Fellowship a memorial collection of books by or relating to Charles Dickens which was now being acquired or got together. The expenses of the library and museum last year were 6,506*l.* The art gallery was visited last year by 131,287. There was no art loan exhibition in 1905. Miniatures of King Edward VII. and the late Prince Consort were presented by Sir Alfred Reynolds and Sir Homewood Crawford respectively. The gallery had received bequests of two water-colour drawings by Paul Sandby, R.A., and an oil-painting, "A Winter Scene in Amsterdam," by H. Koekkoek.

TESSERÆ.

Ancient Rome.

The actual circuit of the walls of Rome has been very variously stated. Some of the authorities on the subject have been misunderstood, but others are manifestly in error. The best measurements have been made by the simple process of walking round them. The Servian enceinte, as far as it can be traced, has thus been found to extend to about 8 miles, that of Aurelian to 12¼. This agrees very nearly with the statement of Pliny, that the mænia of Rome had a circuit of 13 m. p. The word mænia has been taken for the walls, and as the walls of Pliny's time were the so-called Servian, it has been thought that for xiii. we should read viii. Mænia, however, properly implies not walls, but continuous edifices, and was used no doubt by the author to indicate the extent of the regions of Augustus, comprehending the actual city of his day. This conclusion is important as it furnishes us with the best data we possess for determining the population of Rome. There are, indeed, a variety of proofs that the suburbs of the city were never either extensive or populous, derived from the paucity of remains beyond the walls, from the practice of lining the roads for miles with sepulchral monuments, from the absence of bridges across the Tiber either above or below the walls, and from the frequent mention of country villages, lanes and retired woods at but a short distance from the gates. We may conclude, then, that the mass of the population was strictly confined to the limits comprised within the walls of Aurelian. Although, however, those walls are above 12 miles in circuit, about the same as the outer boulevards of Paris, it must be observed that they do not enclose a regular figure, and the area they embrace is far less than it would be if the circumference, as at Paris or ancient Athens, approached a circle or ellipse. In the time of Augustus a large proportion of the area was very thinly inhabited, and even in later times indications are not wanting that great spaces within the city were still occupied by gardens and pleasure-grounds, while the extent of the public buildings seems to have constantly increased. The emperors appear to have experienced no difficulty in clearing the ground for their enormous constructions. On the whole, Rome in the Augustan age cannot have stood on more ground than the city of the present day, nor in the time of Aurelian did it occupy a greater space than Naples, and the Italian cities present in many respects the fittest objects to compare with it. When we add that, while repeated fires were thinning the density of habitation, new regulations were introduced for reducing the height of houses; that Trajan fixed the limit at 60 feet, while in London they rise very generally to 70 or 80, and in modern Rome and Naples still higher—we shall be content perhaps with a very moderate estimate of the population of the ancient city. Judging from the extent of the area and the character and density of the buildings, we shall hardly believe that it ever approached to the number of one million.

River Spirits in Art.

The worship of river spirits was the offspring of affection and gratitude, and it is giving a very unfair and false picture of the human mind to ascribe the superstitions to the working of fear alone. These would have represented the river gods as seated on ruins, brandishing rooted-up trees with angry looks, pouring out their sweeping torrents. But no such thing. The lively imagination of the Greeks felt and expressed with an energy unknown to all other nations every emotion of the human soul. They figured the Naiads as beautiful nymphs, patterns of gentleness and of elegance. These they represented as partially attached to the children of men, and their interference in human affairs is always in acts of kind assistance and protection. They resemble in this respect the rural deities of the northern nations, the fairies, but without their caprices and resentments. And if we attend to the descriptions and representations of their river-gods, beings armed with power, we find an attribute which slavish fear never fails to couple with cruelty and vengeance, we shall find the same expression of affectionate trust and confidence in their kind dispositions. They are generally called by the respectable but endearing name of father. "Da Tyberi pater," says Virgil. Bruce says that the Nile at its source is called the *abay* or "father." We observe this word or its radix blended with many names of rivers of the east, and think it probable that when our traveller got this name from the inhabitants of the neighbourhood, they applied to the stream what is meant to express the tutelar or presiding spirit. The river-gods are always represented as venerable old men to indicate their being coeval with the world. But it is always a *cruda viridisque senectus*, and they are never represented as oppressed with age and decrepitude. Their beards are long and flowing, their looks placid, their attitude easy, reclined on a bank, covered, as they are crowned, with never-fading sedges and bulrushes and leaning on their urns, from which they pour out their plentiful and fertilising streams. Bruce's description of the sources of the Nile, and of the respect paid to the sacred waters, has not a frowning feature. Pliny says (lib. viii. 8) that at the source of the Clitumnus there is an ancient temple highly respected. The presence and the power of the divinity were expressed by the fates which stood in the vestibule. Around this temple were several little chapels, each of which covered a sacred fountain, for the Clitumnus was the father of several little rivers which united their streams with him. At some distance below the temple was a bridge which divided the sacred waters from those which were open to common use. No one was to presume to set his foot in the streams above the bridge, and to step over any of them was an indignity which rendered a person infamous. They were only to be visited in a consecrated boat. Below the bridge people were permitted to bathe, and the place was incessantly occupied by the neighbouring villagers.

Correspondence

H.R.H. Princess Christian's Appeal to the Nation on Behalf of the National Committee for the Establishment of Sanatoria for Workers Suffering from Tuberculosis.

Sir,—In the autumn of last year an appeal was made on behalf of the national committee for the establishment of sanatoria for workers suffering from tuberculosis, with a result so satisfactory that the committee have been able to purchase 250 acres of land at Benenden, in Kent, and are about to commence building operations for thirty patients as a start. The foundation-stone will be laid in July next. As further funds are received additional beds will be provided, and the committee earnestly appeal for donations with that object.

It is common knowledge that in its earlier stages consumption is curable, and the national committee have constructed this scheme on eminently practical lines, the principal point of which is that the institution as it is completed becomes entirely self-supporting, without endowment from local rates, voluntary contributions or other forms of charitable subscription.

One concrete example among many will suffice to put the scheme before the public. In this first or model sanatorium provision is made for 200 beds, and the Postal Federation have guaranteed to support twenty-five beds—over 32,000 of its members having undertaken to subscribe 2*s.* per annum for that purpose. Other bodies of workers are making similar provision for smaller numbers of beds.

Dr. Latham stated at the annual meeting of the Hospital Saturday Fund that in London alone 16,000 persons die every year from tuberculosis whose valuable lives might have been saved. This has reference to the disease in its earlier and curable stage, but he computes that no less than

80,000 of our metropolitan population are stricken with it in one form or another.

Such a statement made with authority needs no comment to make its impression. If the work of the national committee is to be carried through, and its righteous and humanising influence and example felt through the length and breadth of our land, our earnest appeal must have a ready and generous response.

The committee feel that the scheme of founding self-supporting sanatoria for workers suffering from tuberculosis is the right solution of the difficulty in prosecuting this campaign.

Donations should be sent to the secretary, special appeal fund, Mr. E. Douglas White, 19 South Molton Street, Bond Street, London, W.

Helena, President, on behalf of the Committee.

Hot-Water and Heating Services.

Sir,—I am instructed by my Council to communicate with you and respectfully draw your attention to the action of the plumbing trade (both masters and operatives) in interfering with the execution of contracts placed in the hands of heating and domestic engineers by architects and other clients, and to the attempts of the plumbers to secure a monopoly of the work of domestic hot-water supply.

The plumbers' claims, which have been made in various places throughout the country, are that all such work in any metal is plumbers' work only, and that it must not be undertaken by heating and domestic engineers. These claims have been successfully resisted, although in some cases the plumbers struck work and caused serious loss and annoyance to all concerned.

This class of work has always been largely carried out by heating and domestic engineers, and the experience of some firms (members of this Association) covers a period of over eighty years. The claims of the plumbers are of quite recent date, and cannot be admitted, as, if acceded to, the monopoly created would be a hardship and injustice not only to the master engineers, but also to the workmen engaged in this special branch of engineering, who by training and experience are thoroughly qualified to do the work in the most efficient and satisfactory manner.

The annexed resolution (Appendix No. 1), which was adopted at a joint conference between representatives of both master engineers and master plumbers, expresses the general position taken up and maintained by the members of this Association.

I am further to advise that, with the object of preventing trouble and giving correct information as to facts, my Council submitted representations to the Royal Institute of British Architects, and an extract from a letter conveying the decision of this body is also annexed (Appendix No. 2). This, you will observe, is strictly neutral and impartial, and gives no support to the plumbers' claims for a monopoly.

As repeated assertions have been made by the plumbers that the Manchester Society of Architects agree that the work in question is plumbers' work only, I further annex (Appendix No. 3) copy of a letter received from this Society which makes it clear that their position is the same as that of the R.I.B.A.

My Council desire me to ask your kind and careful consideration of this matter and the favour of your cooperation.—Yours respectfully,

H. B. Watt,
Secretary of the National Association of Master
Heating and Domestic Engineers.

June 6, 1906.

Appendix No. 1.

Joint Resolution of Master Engineers and Master Plumbers.

"At a meeting held May 22, 1902, it was mutually resolved by the representatives of the National Association of Master Plumbers of Great Britain and Ireland and the Institution of Heating and Ventilating Engineers that in future it be observed that all leadwork be considered plumbers' work, but that a neutral line be taken as regards all iron, brass, copper or other metalwork which may be executed by engineers or plumbers."

Proposed by Mr. D. M. Nesbit, London, on behalf of the Institution of Heating and Ventilating Engineers, seconded by Mr. J. H. Taylot, Huddersfield, on behalf of the National Association of Master Plumbers, and unanimously agreed to.

Appendix No. 2.

Extract from Letter from the Royal Institute of British Architects to the National Association of Master Heating and Domestic Engineers.

"February 27, 1906.

"I am directed by the Council to inform you that the committee apointed to receive deputations from the National Association of Master Plumbers of Great Britain and Ireland, the National Association of Master Heating and Domestic Engineers, and the United Operative Plumbers' Association, with regard to the right of the different trades to deal with hot-water work for heating and hot-water supply, has presented its report with which the Council is in entire agreement.

"I am to inform you that the Royal Institute of British Architects is concerned only with the improvement and efficiency of craftsmanship, and does not concern itself with trade questions. It therefore cannot see its way to lay down any rule or to advise its members as to which trade should have the right or preference in the execution of hot-water work. "(Signed) W. J. Locke, Secretary."

Appendix No. 3.

Copy of Letter from the Manchester Society of Architects to the National Association of Master Heating and Domestic Engineers.

"March 16, 1906.

"With reference to the circular issued by the Master and Operative Plumbers' Associations, dated March 25, 1903, which emanated from this Society, my Council regrets to hear that it has not been construed in the spirit it intended.

"I am instructed by my Council to inform you that it is in complete accord with the letter, copy of which I enclose, issued from the Royal Institute of British Architects, dated February 27, 1906 [see above], and to inform you that it desires the same to be accepted as its view of the matter.

"(Signed) Paul Ogden, Honorary Secretary."

GENERAL.

Mr. Frank Dicksee, R.A., Mr. Leslie Thomson and Mr. Frank Burridge have been selected to assist the Liverpool Arts committee in the selection and hanging of works for the autumn exhibition of pictures promoted by the Liverpool Corporation.

The Royal Glasgow Institute of the Fine Arts have just had a more successful exhibition than they have had for many years. In 1904 the total sales were under 7,000*l.*; that sum has now been exceeded. The first and second winners in the Art Union drawing used their prizes of 200*l.* and 100*l.* respectively to purchase several pictures each.

Sir John Rolleston, of Leicester, the umpire in the arbitration between the Manchester Corporation and the Earl of Wilton in respect of 70 acres of land adjoining Heaton Park, Prestwich, required by the Corporation for reservoir purposes, has issued his award. The amount awarded by the arbitrator is 23,805*l.* The original claim was 45,000*l.*

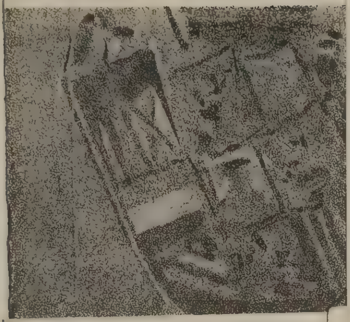
Large Decorative Panels, executed by Mr. J. Kerr-Lawson for the drawing-room at Stoke Rochford, Lincolnshire, and representing towns and cities of Italy, are on exhibition at the Alpine Club, Mill Street, Conduit Street, W.

The Nottingham Corporation have agreed to lend pictures and other works of art to the local schools.

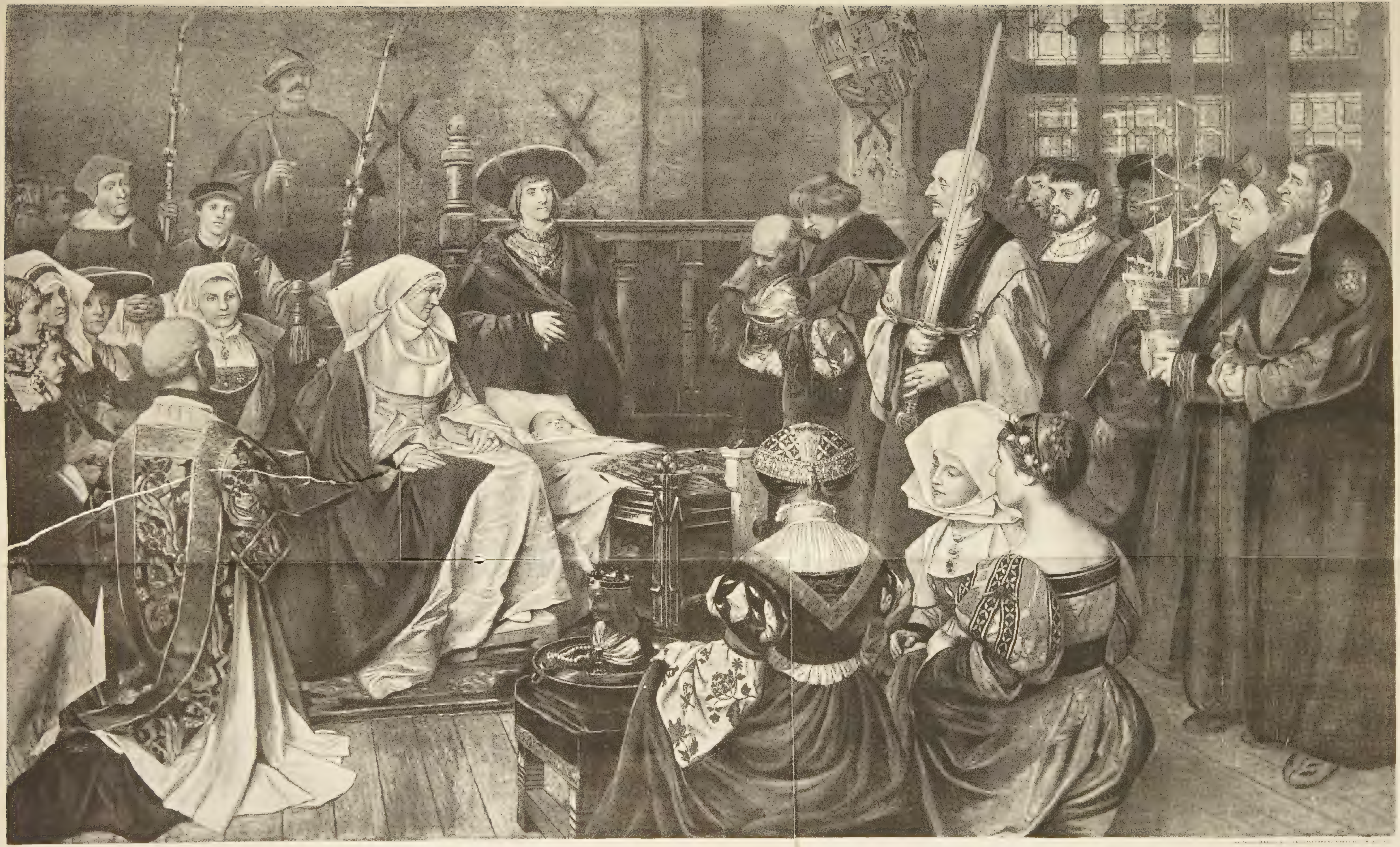
M. Jean Aubert, the French painter, has died in Paris. The deceased artist entered l'Ecole des Beaux-Arts in 1841 as a pupil of Delaroche and Martinet. He afterwards studied in Italy for five years, and devoted himself to engraving until 1853, when he took up lithography in addition to painting.

The Aberdeen Town Council have granted the honorarium of 200*l.* to Mr. Samuel Milne, gas engineer, for his services as architect of the buildings erected at the Ferryhill electricity works, the cost of which had amounted to 32,221*l.*

Messrs. Hubbard & Moore, architects and surveyors, of 85 Gresham Street, London, E.C., announce their removal to 112 Fenchurch Street, E.C.

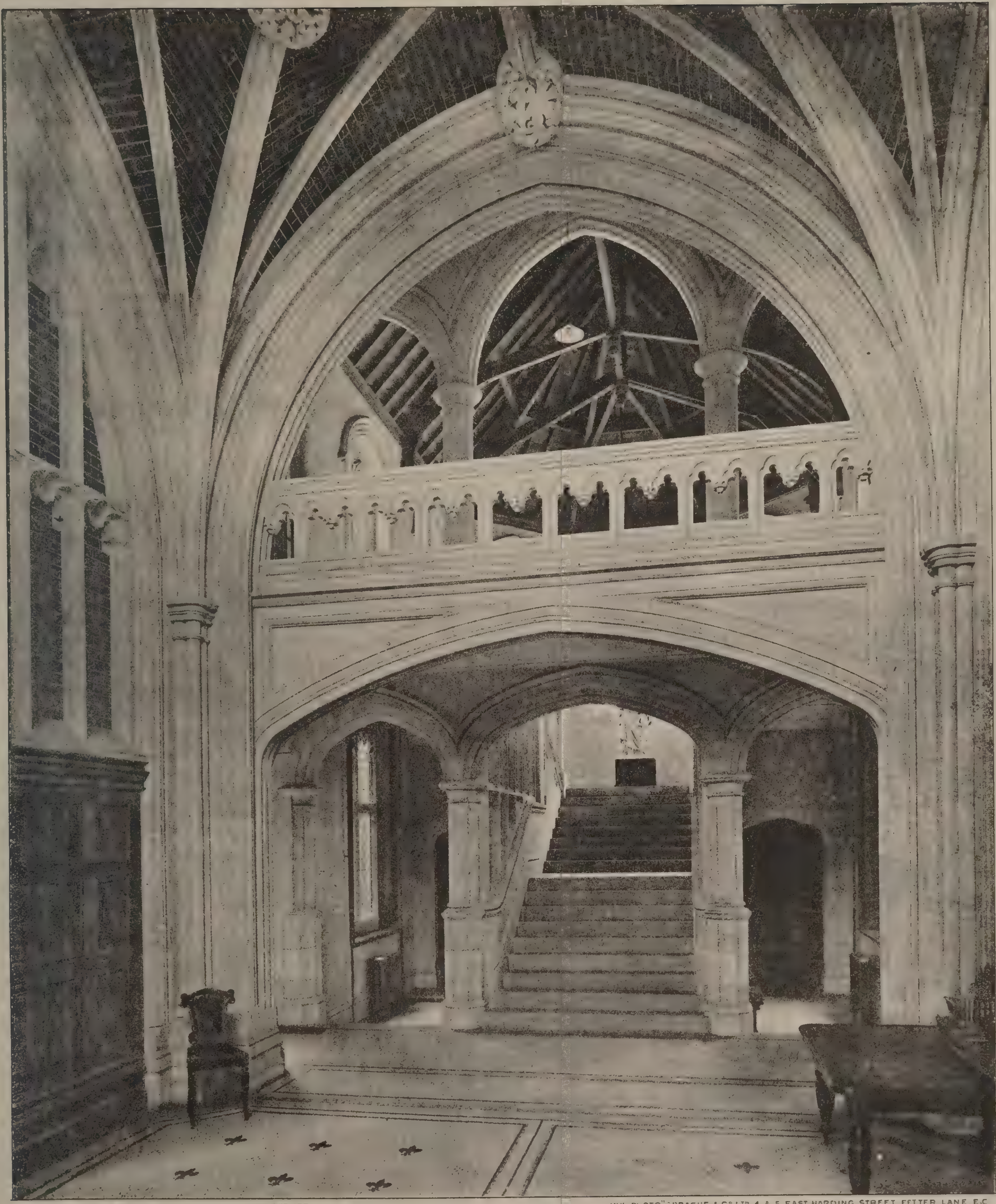


The Architect, June 8th 1906



THE HOMAGE TO THE INFANT CHARLES V.

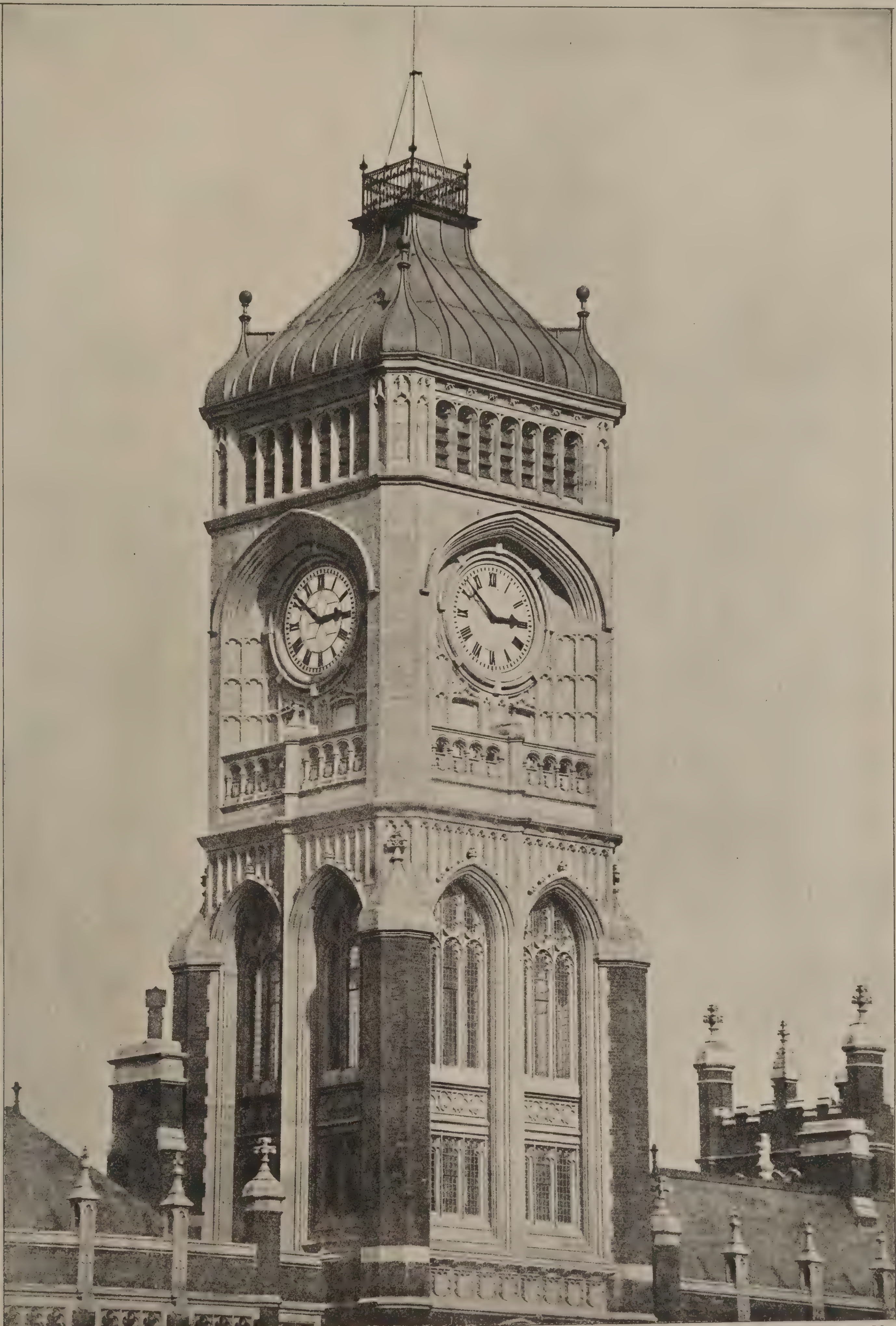
FROM THE PAINTING BELONGING TO THE BRUSSELS MUSEUM.
AND NOW ON EXHIBITION AT THE GUILDHALL GALLERY
BY M. ALBRECHT DE VRIENDT, DIRECTOR OF THE ANTWERP ACADEMY.



PHOTOGRAPHED BY . B. BOLAS & C° 68. OXFORD STREET. W.
INK PHOTO, SPRAGUE & C° L^TD 4 & 5 EAST HARDING STREET. FETTER LANE. E.C

Masonic Institution for Boys, Bushey, Herts: Entrance Hall.

Messrs. GORDON & GUNTON, Architects.



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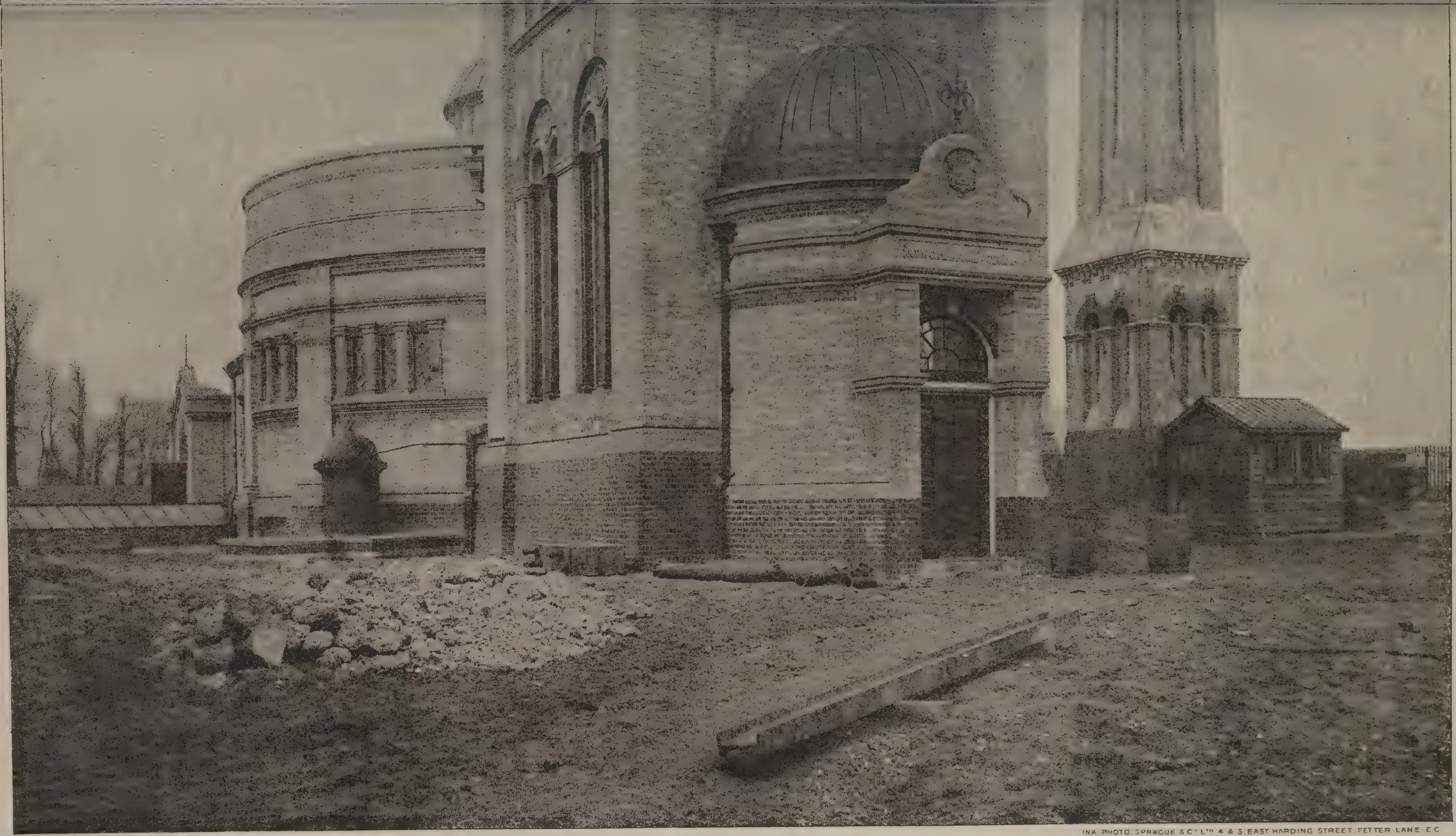
INK PHOTO SPRAGUE & Co Ltd 4 & 5 EAST HARDING STREET, FETTER LANE. E.C.

MASONIC INSTITUTION FOR BOYS, BUSHEY, HERTS: TOP OF TOWER.

Messrs. GORDON & GUNTON, Architects.



PHOTOGRAPHED BY BEDFORD LEMERE & Co 147, STRAND, W.C.

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STREATHAM COMMON PUMPING STATION.

J. W. RESTLER, M.I.C.E., Architect.

The Architect.

THE WEEK.

It is to be hoped that the election of Mr. Alfred East, A.R.A., as president, will have a beneficial effect on the fortunes of the Society of British Artists. The Society has been hospitable towards young artists, and many men who afterwards became successful were made known through its exhibitions. The new President is one of them. It is true the Society for a long time afforded opportunities for the exercise of sarcasm on the part of critics. But, taken as a whole, the history of the body is creditable. Mr. Alfred East has derived subjects from so many countries he may be considered as a cosmopolite, and we may therefore expect that during his presidency the Society will not appear to be monopolised by a few men. It is the first time an Associate of the Royal Academy has held office, for although Clarkson Stanfield and David Roberts were presidents, it was prior to their election into the Academy. The old feud between the two bodies is not likely to be again revived.

A curious case was heard last week in the Brighton County Court, in which a local publisher claimed 8*l.* 8*s.* from one architect and 5*l.* 5*s.* from another, ostensibly for the price of a book entitled "London at the Opening of the Twentieth Century: Contemporary Biographies." From the evidence which was given it appeared that a canvasser called at the office of each of the defendants and applied for particulars of their career. The consideration for the money was said to be not an advertisement but the book itself. Nothing was, however, mentioned about the time when the book was to be delivered. One of the defendants stated that he informed the agent if the book was not delivered in a year he would not have it. The other defendant said that he told the agent he was hardly important enough to be inscribed in such a work. The Judge decided against the plaintiff in one case, because delivery two and a half years after the contract was not delivery within a reasonable time. But in the other case the decision was in favour of the plaintiff. His Honour remarked that the case showed the danger of dealing with touting persons, who generally made much larger promises than they were able to fulfil, and he hoped the warning would be taken to heart. Architects who have attained a position in their profession can bring themselves and their works in a less expensive way before the public.

Edinburgh was from an early age exposed to attack, and in the time of Robert II. the principal inhabitants were allowed to set up dwellings within the castle. The outworks may have formed the defence which was known as the King's Wall. In the time of James II. further defences were constructed. But probably the most important was that known as the "Flodden Wall," which was erected in haste after the battle and when it was anticipated that the English troops would assault the city. Sir Daniel Wilson says "the farmers of the Lothians lent their labourers and horses to the national work; and the citizens rivalled one another in their zeal for the fortification of the capital against the dreaded foe, 'our auld inymis of Ingland.' In an incredibly short time the extended city was enclosed with defensive walls, with ports, battlements and towers, superficial indeed even as compared with the older city wall, yet effective as a protection against the military engineering of the age." A part of the Flodden Wall which remains in the grounds of Heriot's Hospital is now receiving a good deal of attention in Edinburgh. The Governors are about to erect an art school, and they wish to build on the wall. They claim joint ownership in it, as it was rebuilt in 1888 at the joint expense of the Trust and the Corporation. The latter claim the sole ownership, but they will allow the Governors to use it on condition that the Trust shall keep the wall in good condition, and that the Corporation can use a part of it if necessary. A further instance of caution is that no conveyance of the wall is to be given.

A sanitary authority can order works to be done in connection with houses, and they can open and examine the ground in order to see if drains are repaired, restored, or the defects otherwise remedied. But apparently there is no authority to examine the works while in progress. This has been exemplified in a case which came last week before the Lambeth Police Court. An order was served by the Walworth Council to have drainage works executed in connection with the Prince Regent buildings. A sanitary inspector visited the place. There he met an ex-sanitary inspector, who had apparently superintended the work on behalf of the owner, and who ordered the official to leave. The magistrate expressed a doubt whether a sanitary inspector was authorised to watch the progress of the works. The solicitor to the Council maintained that unless he did so the work might be covered in, and it could not be examined unless it was uncovered, which would mean expense to the Council. The magistrate came to the conclusion that the inspector was not duly employed in the execution of his duties in visiting premises where drainage was in progress under a notice. The summons was therefore dismissed, but without costs. According to the Public Health (London) Act of 1891 a sanitary inspector can enter premises (1) for the purpose of examining as to the existence thereon of a nuisance liable to be dealt with summarily under the Act; (2) where a nuisance has been ascertained to exist, or a nuisance order has been made, until the nuisance is abated, the required works completed, or the closing order cancelled, as the case may be; and (3) where a nuisance order has not been complied with or has been infringed, for the purpose of executing the order. Apparently the efficient carrying out of the work must rest with the owner of the premises.

The announcement that the Indian Government has undertaken the responsibility for the preservation of ancient monuments throughout the country will give satisfaction to architects and archæologists, who have witnessed the neglect of structures which one day must be prized. Archæological surveys were permitted under some of the governments, but no systematic efforts were made to secure the safety of the monuments. There are numerous problems connected with the architecture which have not been solved. And although of late innumerable photographs and measured drawings have been made, they cannot have the effect of the works themselves. There are also questions of anthropology connected with the buildings which hereafter will possess increased importance. As Fergusson, who did so much to create an interest in Indian architecture, says:—"For certain qualities—not perhaps of the highest kind, yet very important in architectural art—the Indian buildings stand alone. They consequently fill up a great gap in our knowledge of this subject, which without them would remain a void."

Fortunately for trade all parts of the United States are not neglected equally with Oregon, Washington and Idaho, for, according to the British Consul at Portland, not one cask of cement was received from the United Kingdom during the past year. The British manufacturer appears to be, he says, indifferent to that market. The Japanese seem more wide-awake, for it is expected that a large amount of cement will be received from them. There was such a scarcity of cement in the consul's district that prices advanced at one time to 13*s.* a cask. There is an extraordinary demand for concrete and the supplies were not sufficient to meet it. It was therefore under consideration to start local cement works. The report was written prior to the destruction of San Francisco, which has aggravated the dearth of the material.

SHOP FRONTS.

In an article on the architectural designs now to be seen in the Royal Academy which appeared in this Journal, when referring to those relating to the Regent Street improvement, it was said :—

> The designs for the Piccadilly Hotel, which were prepared for the Office of Woods, and the different views of the Quadrant, which were also inspired by the same authority, are enough to make John Nash disturbed when he thinks of the opportunity he lost. He was controlled by cheapness and flashiness. But since the days of the Regency London has increased in wealth, and investors in building can be compelled to accept an expenditure which at one time would be impossible. It would, however, be interesting to have the report of a committee of Regent Street shopkeepers on the designs. They would not be unlikely to maintain that although the new buildings would serve for insurance offices, they are not adapted for the requirements of trade. It will no longer be possible, if the designs are adopted, to have it appear that the shop front is everything, and that it mattered little whether, constructionally or financially, the upper part of the premises were supported by a signboard and a large plate of glass. Mr. Norman Shaw would substitute an arched construction in the ground floors of all the premises in the Quadrant. The Office of Woods can insist on the arrangement. If obeyed it might not be prejudicial to the shopkeepers' interests, and if so we should then expect, as we have said, to witness a change which would be revolutionary.

The petition from the lessees and occupiers of Regent Street to the Commissioners of Woods and Forests can be considered as equivalent to the report which we anticipated. In it they recognise the design as an artistic triumph which would be adapted for such a street as Lombard Street, but if carried out would have a disastrous effect upon Regent Street as a shopping thoroughfare. The style would be too expensive for the ordinary lessee. The heavy columns would occupy a great part of the window space, and as the continuity of the window line would be broken, it would be almost useless for one occupier to have a succession of shops. The windows set back would be entirely hidden from people walking up and down the pavement. It is also believed that the architecture of the Quadrant, if carried out as proposed, would prevent customers from reaching the northern part of Regent Street.

The opinion expressed by the lessees and occupiers of Regent Street corresponds with that which has been urged by shopkeepers not only in London, but elsewhere, whenever the architectural improvement of the shop front has been proposed. Indeed, the opinion is so general it is not uncommon for those who erect buildings containing shops to leave the shop front to be inserted by the lessee or to wait until it can be arranged to suit his desires. It is needless to say that the general wish is to have only one plate of glass in the window, no matter how large may be the area. Manufacturers can now produce plates of immense size, and the financial risks which attend their use are minimised by the aid of insurance offices. In the old days, when glass could only be produced in small panes, shopkeepers were compelled to have windows which did not suggest that the whole of the upper part of the house was supported by glass. As the restriction was general, we suppose no individual could be said to have suffered because it was impossible for him to have such a display of his goods as he may have desired, and which can be recognised without any difficulty in our time.

It must also be allowed by shopkeepers that in London co-operative stores have secured an enormous business without any provision for the display of their goods in windows. That success may no doubt be due to the circumstance of the customers being prepared to suffer some inconvenience for the sake of economy. It is remarkable, however, that in provincial towns the directors of the co-operative stores seek to have more ample window space than ordinary shopkeepers. Indeed, the desire for large windows is so general among traders, it would be idle for an outsider to maintain that with windows of a different description they would be at least equally successful. Human nature abounds in weaknesses, and shopkeepers especially have to accommodate themselves to whims of many kinds. **Dickens** was truthful when he made **Blaze & Sparkle**, the jewellers, say, "If you want to address our people, sir, you must remember that you are not dealing with the general public; you must hit our people in their weakest place, and their weakest place is such a place." The public, whether general or select, have a weakness for gazing at shop windows, and it is, we suppose, reasonable to turn it to profitable account. It may seem absurd to believe that rational beings will purchase goods which they do not require as a result of gazing. But the aim of the shopkeeper is to allure them in order that they shall not seek some rival's establishment. Hence it is that window dressing is regarded as an art, which is paid for at a higher rate than ordinary assistance in the shop. On that account also every available inch of space is used to display goods, and if columns happen to be within the enclosure they are wreathed with drapery in order to prevent them becoming a mere obstacle to the view.

There is another reason which is no less important. Every shopkeeper is eager to prevent his windows from being confounded with those of his neighbours. This may be due to a desire to express individuality, but the principal object we believe to be the fear of imitation. Uniform shops of which the use is compulsory are consequently never satisfactory to those who occupy them. In the old days before shopkeeping had attained its present development efforts were made to avoid confounding one shop with another by means of signs from which they took their designations. "The streets," as the "Spectator" said, "were filled with Blue Boars, Black Swans and Red Lions, not to mention Flying Pigs and Hogs in Armour, with other creatures more extraordinary than any in the deserts of Africa." In foreign towns there was a still greater variety. But similar aids to identification would not now be tolerated, and the shopkeeper depends mainly on the character he is able to impart to his shop window. Both public and private authorities always favour uniformity because it gives less trouble than variety. We can therefore see that when suburban estates are laid out as streets for business purposes the shop fronts are of one type. There may be compensation for the objections of the tenants. But it is very doubtful whether, as in such cases there is less necessity for competition, the shops are as profitable as those in which there was no dictation about form.

In all such cases it is well to profit by the experience of foreigners. Now in Europe there is no better example of uniformity of design and of the subservience of shops to the general architectural design than is afforded by the Rue de Rivoli. The line of shops forms an immense arcade. In order to create the rue many of the old streets of Paris were sacrificed. But what kind of shops do we find there? Several seem to depend on the sale of cheap photographs. Others sell trinkets which are supposed to have come from the East. There are a few watchmakers, stationers and booksellers. Mainly the trade is in *objets de Paris* of an inferior kind. No one acquainted with Paris would go there to purchase an article of value. When we consider all the circumstances of an adverse kind which are connected with Regent Street we might say that with similar architectural treatment it would degenerate into a London Rue de Rivoli. A second example is not far distant. The Palais Royale is another vast range of shops of admirable but uniform design, and which throughout all its parts displays the hand of the official architect. But there are few of the tenants who do not complain of the decline in trade. Parisians and visitors to Paris could find enough of uniformity elsewhere, and the restricted dimensions of the shops of the Palais Royale confine the occupiers to only a limited range of articles which are not always in request.

The streets of Paris afford countless variety in the "boutiques." Indeed the appearance of the city would become painful from the perpetual use of white stone and the similarity in treatment, imposed partly by the preference for one style and partly by official regulations, if it were not that some imagination is permitted in the ground floor and mezzanine, the latter being a common accompaniment of the shop. The Parisian lessee does not, however, confide his interests to a trader in shop-fronts. He wishes the property he is to occupy and utilise for profit to become the most attractive part of the building, and he has no difficulty in finding architects who are quite satisfied to put all their ability into a design for a work so circumscribed.

Brussels has been described as Paris on a reduced scale. In that city which is so open to foreign influences we find that strangers as well as natives give a preference to those parts of the city which cannot be considered as displaying the latest improvements. The steep, irregular, and we might say unsatisfactory Montaigne de la Cour, continues to be the principal street of the town as regards shops. Brussels has had to be enlarged from time to time, and fine streets have been created with shops which have a right to be regarded as high-class, but they are mainly used by inhabitants of neighbouring districts. Fashion has its own resorts, which are due to custom rather than to beauty of buildings.

We might refer to other cities as evidence that commercial success does not always coexist with meritorious architecture. This, no doubt, is a perplexing and an annoying circumstance. But it is one which concerns other people besides architects. For that reason we believe that serious consideration should be given to the petition of the lessees and occupiers. It would, no doubt, be a gratifying exercise of power for all who are connected with the Woods and Forests Department to transform Regent Street, and by doing so to demonstrate to the world that one quarter of the Metropolis has a somewhat grandiose character. But who can answer for the public, and guarantee that the new Regent Street will be as attractive to them as the old? It should be remembered that already rival streets are gaining favour. Oxford Street and Bond Street, with others which serve as arteries, are yearly becoming of increased importance. Regent Street, in fact, could afford to have more subsidiary interest. If that could arise from an alteration in the architecture it would be gratifying. But as those most competent to judge on the subject are doubtful, further consideration is demanded.

THE LAOCOON.

In 1506, when Julius II. was Pope, Felice de Fredis discovered in his vineyard near the Sette Sale at Rome the group of the *Laocoon.* It is easy to imagine the amazement of all who loved art at such a revelation of a class of work of which there were few representatives. On June 1, 1506, the Roman poets held a festival in celebration of the event. De Fredis received the substantial reward of a share of the custom dues which had to be paid at the gate of St. John Lateran, and the successor of Julius changed the reward by making over to the family the appointment which was then known as *officium scriptoriæ apostolicæ.*

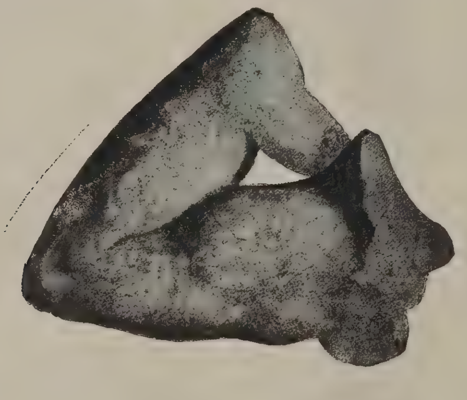
The spot in which it was found is by no means certain. According to Pliny the group was in the palace of Titus. But later writers seem to think it was most likely the baths of Titus contained it. Richardson says there were fragments of a similar group found in the house of Titus, which would be parts of the group described by Pliny. In that case the group which is now in the Belvidere of the Vatican would be only a copy. But Richardson considers it inconceivable that there could have been another work of equal merit. When the work was removed to the Vatican it was, however, defective, for the right arm and shoulder of Laocoon, the right hand, part of the head and of the feet of the elder son, and the right arm of the younger boy were lost. Clement VII., who was the third in succession to Julius II., was dissatisfied with the appearance of the group as well as with the figure known as the *Apollo Belvidere*, which required a forearm and hand. The Pope consulted Michel Angelo, and he recommended that Fra Giovanni Angelo Montorsoli, of the Order of the Servites, should be employed as restorer. He was an able sculptor who had carried out several monuments and fountains in various parts of Italy. But whether he was competent to deal with important examples of ancient art may be doubted.

There were so many pieces of sculpture in ancient Rome, we can well understand that a writer like Pliny would hesitate about giving a description in detail of such a group as the *Laocoon.* Probably he would not have referred to it if it were not that the work supported his theory that whenever there was co-operation among artists there was sure to be loss of individuality. He wrote:—"The *Laocoon*, which is in the house of Titus, is held to be superior to all other works of the painter and the sculptor. In it the able Rhodian artists Agesander, Polydorus and Athenodorus, worked together in carrying out a concerted plan, which was to form father, sons and the wonderful coils of the serpents out of a single block of marble." The belief that so intricate a group could be carved out of one piece of stone excited the wonder of Pliny. He was, however, under a delusion. For the elder son a different block was used, and the joint can be discerned on close examination. Indeed, some experts say no less than five blocks were needed. It was also doubtful how the three artists could have an equal share in producing the group. Winckelmann came to the conclusion that Agesander probably was the sculptor of the priest, and Polydorus and Athenodorus of the two sons. In that way there would be a correspondence between the family of sculptors and the victims they represented.

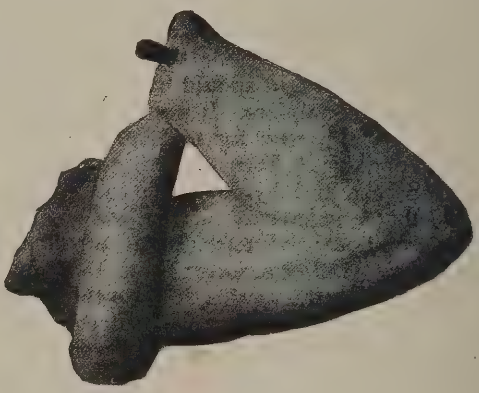
We can hardly suppose that so remarkable a subject would be neglected by artists until a comparatively late period, for it is believed the *Laocoon* was executed in Rome in the time of Titus by the Rhodian sculptors. That the subject was earlier treated is evident from various gems and reliefs. A painting of it, but of very inferior character, was found in Pompeii, and this would suggest that the subject had become popular, and that humble artists found little difficulty in discovering an original which they could adapt. Literature furthermore supplied several versions of the legend. Laocoon was the uncle of Æneas, and hence the subject would have interest for the Roman people. He had committed the unpardonable offence of warning the Trojans about the great wooden horse. In that way he excited the wrath of Apollo, who sent two monstrous serpents to attack him and his sons. The three were seized when about to sacrifice to Neptune. It has been supposed by Lessing and others that the sculptors adopted the account given by Virgil, and of which we give John Dryden's translation, but the group is likely to have existed before the poem :—

First about the tender boys they wind,
Then with their sharpened fangs their limbs and bodies grind.
The wretched father, running to their aid
With pious haste but vain, they next invade ;
Twice round his waist their winding volumes rolled,
And twice about his gasping throat they fold.
The priest thus doubly choked, their crests divide,
And towering o'er his head, in triumph ride ;
With both his hands he labours at the knots,
His holy fillets the blue venom blots ;
His roaring fills the flitting air around.

Lessing's book, we may remark, is intended to demonstrate that although a priest may roar in poetry, the sculptor and painter must be careful to avoid suggesting that he allowed his face to be contorted by his agony. The "clamores simul horrendos ad sidera tollit" becomes in art a subdued groan of anguish. Laocoon appears to suffer in the group, but he does not in the least degree break the rules of deportment. That being the case it is not easy to explain what the group represents. Is the priest imploring the gods for mercy? David, the painter, who was supposed to know all about ancient art by instinct, said that the movements of the head, of the left arm and of the feet, indicate courage, while the right arm expresses cowardice. He, of course, must have remembered that the right arm was not ancient. Other interpreters suggest that Laocoon is overcome and has to subside on the altar. In that way his courage would be at an end. According to John Flaxman, "the convulsed rise of the youngest from the ground is the most electric circumstance in the whole sentiment." There are others who believe that the boy has just died. The elder son seems to be divided between surprise at the position of his father and a desire to secure his own safety. It is doubtful whether he may not escape the doom of his father and brother. Then, again, the proportions of the boys are not in keeping with their ages. As Hogarth well remarked, they must have been designed for men, but they are only allowed to be one-half the father's height in order that the pyramidal principle should be respected. The incident which is represented is not, therefore, merely an attack by two powerful serpents; we are also enabled to judge of the effects produced on three victims who differ in character. If, for instance, Laocoon has collapsed and is uttering his last sigh, the restoration of the right arm in an almost vertical position suggests a degree of strength which does not agree with the remainder of the body. According to tradition Michel Angelo desired to treat it differently. Winckelmann says :—"This arm, around which the serpents are twined, was to have been held in a bent position across the head of the statue. It may have been the intention of Michel Angelo, in this approximation of the arm to the head, to render the idea of suffering in Laocoon, from which the remainder of the figure is free, stronger by two combined ideas, and through the repeated folds of the serpent to place the greatest pain there, the expression of which the ancient artist has balanced with the propriety and beauty which should be the predominant traits of the figure. But it seems as if the arm, bent over and across the head, would divide the principal attention demanded by the head, as the eye would be attracted at the same time to the convolutions of the serpents about the arm."



Front View.



Rear View.

A remarkable discovery of a kind which will be doubtful to many people who have had even a slight acquaintance with the trade in antiquities serves to give support to the theory of Michel Angelo. The *Umschau* relates how Herr Ludwig Pollak has found among a heap of fragments of statuary the objects which are illustrated, and which he recognised as forming part of a group of the *Laocoon.* Both had been broken and were repaired. If genuine they must have belonged to a group that was on a smaller scale than that in the Belvidere of the Vatican. The world has grown so accustomed to the restoration by the Servite monk, the advantage of the change in the position of the arm is not likely to be quickly recognised. There are fragments of what appears to be a finger or fingers in the hair of the priest in the Vatican group, and that is evidence that the hand was originally on the head. But in its restored state the head becomes free, and its strength, pathos and beauty are more evident. The right arm appears to be a continuance of the line formed by the left arm, and that is also an advantage. Michel Angelo supposed that the right hand of Laocoon was pressed against his head; in the fragment it holds the end of the serpent.

In speaking of Michel Angelo in connection with the *Laocoon*, it is remarkable that Vasari, who tells us so much about him, does not mention any project of his for the restoration of the ancient group. Vasari was also the friend of Montorsoli. But, although he mentions that the monk obtained the order to complete the figure, he does not describe how it was carried out. In his Life of Baccio Bandinelli we are told by Vasari that he not only made a replica of the group for the King of France in a very perfect manner, but that he also restored the arm of the antique *Laocoon.* "For the right arm of that figure having been broken and not being found, Baccio made one of the proper size in wax, which so closely resembled that of the antique statue in the muscular development, the force and the manner of the work, uniting with the ancient part, moreover, to such nicety, that it served to show how well Baccio was acquainted with his art." It is therefore not improbable that the extended arm of Laocoon should be ascribed to Baccio rather than to the Servite sculptor. Certainly no other arm by sculptor or painter has been made the subject of so many disquisitions or has given rise to such diverse speculations. But as Goethe says in treating of the *Laocoon*, "a genuine work of art corresponds with a work of nature and remains for ever a task for our understanding which is endless."

RIGIDITY OF CONSTRUCTIVE MATERIALS.

THE relative rigidity of the materials of construction, as shown by their moduli of elasticity, is exhibited, says Mr. James E. Howard in the *Engineering Record*, in the accompanying table of numerical values. The data used in their preparation are from the results of tests made at the Watertown Arsenal, although some of the data might, of course, be had from many other sources.

These ratios of stress to strain are based upon the effect of loads within the elastic limits of the materials. For those cases in which the elastic limits were not well defined, by reason of the early and progressive development of permanent sets, the resilient movements were used instead of strains under direct loads. Tensile stresses were applied to the steel, wrought-iron, cast-iron and bronze, compressive stresses to each of the other materials here represented.

The results of a number of tests on each kind of matelria were examined and representative moduli selected for the present exhibit.

Steel displays the highest modulus of elasticity of any of the materials of construction. It also has a more nearly constant value than any of the others. Its modulus is found to remain in the vicinity of 29,500,000 to 30,000,000 lbs., with great persistency, notwithstanding the chemical composition may extend over the limits of ordinary commercial steels.

It follows that mild steel and hard steels will each extend, compress or deflect substantially the same amounts for the same loads, the elastic limits not being exceeded in any of the grades.

In respect to imparting a higher modulus no method of treatment has been found whereby it may be elevated above its normal value.

Moduli of Elasticity.

Material.	Modulus of Elasticity, Pounds per Square Inch.
Steel	29,500,000 to 30,000,000
Wrought-iron	26,800,000
Cast-iron	14,300,000 to 18,000,000
Bronze	10,000,000 to 14,300,000
Granite	5,000,000 to 9,800,000
Marble	4,000,000 to 15,000,000
Limestone	4,000,000 to 14,700,000
Slate	16,200,000
Bluestone	7,000,000
Sandstone	1,100,000 to 4,000,000
Bricks, hard	10,000,000
Bricks, light hard	4,500,000
Bricks, salmon	500,000
Portland cement	4,000,000
Natural cement	1,100,000
Long leaf pine, butts	2,200,000
Long leaf pine, tops	1,600,000
Short leaf pine	1,500,000
Douglas fir	1,800,000
Spruce	1,500,000
White oak	1,500,000

It is conjectured that a higher modulus might be realised for the time being by exposing the metal to very low temperatures, since the opposite effect results from raising the steel above the range of atmospheric temperatures. At 1,400 degs. Fahr. the modulus appears to have fallen to about 14,000,000 to 16,000,000 lbs. per square inch. The rate of reduction is not thought to be uniform, but increasing as higher temperatures are reached.

The modulus of elasticity may be lowered temporarily by overstraining the metal at ordinary temperatures. From this state there is an early recovery. A return to the normal value has been observed to take place within the limits of a few weeks. The modulus stands as an index of an inherent property of the material, and this characteristic is practically beyond our control.

Wrought-iron has a value next to that of steel. Cast-iron then follows, for which two values are given, indicating the limits within which the modulus may be expected in different grades of cast-iron.

Iron, as such, is the dominant constituent in each of these three cases. The lower and variable value for cast-iron is attributed, in part, to its less dense structure compared with puddled iron or steel.

Although little may be done, and that of a temporary character, to modify the rate of extension or compression of steel, yet the total range or amplitude of the strains admit of decided change. When this range is increased it merely means that the metal has had a higher elastic limit imparted to it.

Bronze, as a comprehensive name, includes various compositions the principal constituents of which are copper, tin and zinc, with which iron and manganese are used in some very strong mixtures. The modulus reaches the value shown occasionally, but more frequently the range is from 11,000,000 lbs. to 13,000,000 lbs.

Among the building stones, slates, dolomites and some of the limestones comprise the more rigid examples. Contrary to the general conception of a granite, this rock has not been found to possess so high a modulus as the stones just mentioned. Statuary marble, the weaker limestones and certain granites display the lower values of their respective classes.

Sandstones generally are quite compressible, and some have furnished the lowest moduli among the list of building stones.

Bricks display a wide range in compressibility, salmon bricks representing the most compressible, hard-burnt bricks the most rigid. With the increase in the modulus of elasticity there is an accompanying gain both in density and in compressive strength. A marked improvement in the strength of piers could, no doubt, be effected by careful selection of the individual bricks, at the same time giving due consideration to the quality of the mortar in which they are laid.

An ordinary value for the modulus of elasticity of Portland cement is 4,000,000 lbs. per square inch. Age does not appear to effect a decided modification in this value in individual cases, although age has a pronounced influence on the development of permanent sets.

The highest modulus which has been observed in a Portland was 5,854,000 lbs. per square inch. This resulted from subjecting the cement to a very high pressure while setting. Natural cements show moduli much below the Portlands. These two kinds of cement not infrequently have the same specific gravity in the unhydrated condition, but after gauging and setting the Portlands have the greater weight per cubic foot and the greater density. The difference in the shapes of the grain suggests a reason for the lesser density and lower modulus of the natural cements in the cake, notwithstanding their specific gravities are often the same as Portlands.

The moduli of elasticity of cement mortars and concretes depends upon the richness of the mixtures, modified by the conditions of loading. Values in the vicinity of 5,000,000 lbs. are occasionally met in rich mixtures, and drop to below 1,000,000 lbs. in the case of very lean ones. The application of a higher stress changes the value of the modulus, as it had previously existed taken over a lower range of stress. This is an important feature in reinforced concrete, since the ratio of the modulus of elasticity of the steel reinforcement to the concrete is not a constant one.

No wide variation in the values of the modulus characterises the several kinds of timber in common use. In long leaf pine the butts show a higher modulus than the tops of the trees. Short leaf pine and the tops of long leaf pine each display about the same value.

Douglas fir is usually slightly more rigid than spruce and some oaks. Spruce and oak frequently have about the same modulus, the more rigid sticks of the latter surpassing those of the former.

The moduli of wood, above referred to, are for stresses applied lengthwise the grain. Decidedly lower values prevail when loaded perpendicular to the grain, and a difference is also found between loads applied in radial and tangential directions, with respect to the position of the stick in the tree. In one instance the modulus in a radial direction was only one-eighth its value taken in a lengthwise direction.

Comparing the radial with the tangential moduli, the latter has been found with but one-half the value of the former.

In tension the modulus of wood is substantially the same as in compression.

TESSERÆ.

The Nimbus.

THERE seems to be no doubt that this method of representing excellence or power is derived from classical antiquity. There are instances where the deities as well as personifications of moral virtues, and even the emperors, are distinguished by the head being encircled with the nimbus. It probably originated among the fire-worshippers of the East, and in reality represents fire or flame emblematical of the Divine power and intelligence emanating from the head. In Persia and other eastern countries at the present day the heads of sacred personages are surmounted or surrounded by a mass of flame rising up into the air like a pyramid. In the earliest Christian monuments the nimbus is not found even when the Deity is represented. The sarcophagi and frescoes in the catacombs of Rome represent the Father and the Son either with no nimbus or with the plain nimbus which at a later period was the attribute of saints and angels. Even as late as the twelfth century we sometimes find the divine person represented with the plain nimbus. Its form was not always circular. In some instances it is triangular, rising up in the form of a pyramid, the point being over the head. This form is found in Italy and especially in Greece, and was considered as emblematical of the Trinity. The nimbus as the emblem of power or excellence is not confined to the divine persons or to the saints. The personages of the Old Testament are sometimes distinguished in the same manner. In a monastery in Mount Hymettus in Attica, Adam has a nimbus; in some of the early paintings in churches in France the prophets, some of the Jewish kings, Abel, Melchizedek, Jacob, &c., are represented with the same attribute. The Virgin Mary, it may be observed, has the nimbus often richly ornamented, but never with the cross, which is the exclusive attribute of the Deity. Allegorical figures also, such as the cardinal virtues, the winds, the elements, day and night, &c., are not infrequently accompanied with the nimbus on Christian monuments. In the East the nimbus was used still more widely than in the West; it was there often applied to mark power, whether good or evil.

Carvings of Stalls.

These sculptures range in date from the thirteenth century to the age of the Reformation, and are distinguished by various degrees of excellence. Sometimes they are very rude, but more commonly, like the illuminations on some manuscripts, they possess a considerable share of artistical skill. Found on the Continent as well as in England, the general character of the subjects is so uniform that we might almost suppose that the carvers throughout Europe possessed one regular and acknowledged series of working patterns. Yet there is a great variety in the details of the subjects and in the manner of treating them. It may be observed that the ornamentation consists generally of a subject immediately supporting the bracket and of two side lobes or cusps springing from the latter. These side ornaments consist sometimes of mere foliage attached to the bracket by a stalk; sometimes they are grotesques, or separate subjects having little or no connection with the central piece, while they are often a dependent and important part of the story represented under the bracket. Writers of vivid imaginations have given them no less a variety of interpretations. Some have conceived them to be satirical attacks directed by the monks at one another or at the secular clergy, while others have imagined that these strange and grotesque figures embodied in allegorical form the deepest mysteries of our holy faith. Each of these opinions was equally far from the truth. In all probability neither the designers nor the carvers were monks, although it is evident they were men of a certain degree of education and well acquainted with the popular literature of the day, the different classes of which are here represented in pictorial form. In this point of view they are valuable as artistical monuments, while they illustrate in a most interesting degree the manners and habits of our forefathers.

Early Church Windows.

It is a common error to believe that the most ancient windows are those composed of only a single opening of light, for many without mullions may be found as late as the fifteenth or sixteenth centuries. The small dimensions of windows has also been regarded as a proof of antiquity, without considering the respective purposes of such apertures or the relative dimensions of the buildings to which they originally belonged. In the small village church of Early Norman architecture the windows are remarkably small, being in some instances only round holes seldom exceeding 9 or 10 inches in diameter, being splayed off internally to disperse the light. Examples may be found in some few churches still remaining in Norfolk. These little circular windows were superseded by small semicircular-headed narrow windows, or rather loopholes which seldom exceeded 8 or 10 inches wide by 3½ or 4 feet in height. Examples are to be found at Witlingham, Ingworth and Gillingham, in Norfolk. Such was the gloominess of the ancient churches thus lighted that most of them were altered by the insertion of larger-sized windows (while the small ones were still left). Subsequently during the fourteenth, fifteenth and sixteenth centuries these new windows gave place to larger openings divided by mullions. On examination of the plans of these early windows there is reason to believe that they had not originally any glass, as there is no rebate or groove for its insertion. Though the use of glass for windows was known in this country as early as the eighth century, it does not follow that the openings in small churches were glazed before the reign of William Rufus. At the time when the narrow windows (not exceeding 10 inches wide) were used in small churches windows of the same date, more than 3 feet wide, without mullions were inserted in cathedrals and large churches and monastic buildings. As a further proof that the smallness of the window is no positive indication of its antiquity, we find in the sixteenth-century church at Harlow, in Essex, windows which are not much larger than the specimens to be found in work of the tenth and eleventh centuries.

Timber Churches.

There is abundant evidence to prove that in the early ages of Christianity many ecclesiastical establishments in this country were constructed entirely of wood. Bede relates that in 627 Edwin the king, on his conversion from paganism, was solemnly baptized and initiated into the mysteries of the Christian religion in a wooden church on the spot where now stands the cathedral of York. The first church at Lindisfarne, in Holy Island, was constructed in 652 of sawn oak and thatched. William of Malmesbury mentions a church of wood at Dutlinge in Somersetshire; and Ingulphus relates that the abbey of Croyland, with all the extensive outbuildings, was formed of wood and boards, exactly joined and beautifully worked, with the exception of the roof, which was covered with lead. In a charter to Malmesbury Abbey, granted by King Edgar, occurs a clause relating to certain reforms necessary to the welfare of the establishment. It is there expressed "that having often attentively considered what return he should make to God for the extraordinary prosperity he enjoyed, he came to this resolution: that he would restore the sacred monasteries which, by being composed of rotten shingles and worm-eaten boards, Divine service was neglected in them and they were almost deserted, and had issued gifts from his treasury for the repairing of the ruined edifices." In early records connected with Glastonbury we find that a church was erected there of pieces of wood wattled together after the fashion of hurdles. The curious illustrations of Cædmon's "Metrical Paraphrase," as well as other Anglo-Saxon manuscripts, exhibit many examples of palaces and churches evidently formed of wood. In the Cotton MS. an example occurs of a building in which Harold is represented as sitting receiving the Magi. This is evidently of wood wattled together as before mentioned. Probably the only existing remnant of these primitive structures is to be seen at Greenstead in Essex. We have it recorded that in this place was enshrined the body of Edmund the Martyr, a king whose life and death have formed themes for songs of the old Saxon poets, for the miracle-workers of that and subsequent periods and traditions in that neighbourhood, which time for ages after the last timber has crumbled to dust will not obliterate.

Tradesmen's Signs of London.

The rapid strides which have taken place in the form of renovations to accord with the tastes of the present race of the citizens of London have conspired to erase almost all traces of the curious signs which formerly occupied so prominent a place in their streets. These signs may fairly be regarded as a species of heraldry or symbolism, and as such are deserving the attention of the antiquary, not only in exhibiting peculiar features in the appearance of the city, but as illustrating the manners and customs of our ancestors. Although, as a rule, these distinguishing marks have been abolished, we have still types of the custom preserved. The introduction of devices and signs against the houses in London was probably resorted to as the only means of identification, as it is well known the introduction of numbering houses was not adopted till the middle of the eighteenth century, from which period we may date the gradual disappearance of signs. These distinguishing marks were not only used by tradespeople and places of resort, but by private families; at the same time the practice was not universal, as many were content to describe their houses by the proximity to their neighbours or to objects of note, as "over against the Condyte," "neer to the Maypole," "next Paull's Cross," &c. William Faithorne, the engraver, gives his address in 1691 "at the sign of the Ship, next door to the Drake, opposite to the Palgrave Head tavern without Temple Bar;" and in an advertisement in 1701 of a public exhibition "at the White Head, near Pall Mall, facing the Haymarket, within two doors of the glass lamps." Amongst the many objections which were raised against signs and called for their removal, was that the owners did not always keep them in a proper state of repair, but allowed them to be blown down on the heads of the people. In 1718 the Court of Common Council appointed a committee to consider the subject of the removal of these nuisances, which were ordered henceforth to be fixed to the front of the houses, flat against the wall. The spirit of improvement did not stop here; the water-spouts which had served to distribute their contents over pedestrians were removed, the streets were for the first time inscribed at the corners with their names, brass plates were introduced on the doors of the gentry, and the numbering of houses completed this portion of the great work of amendment.

Burgundian and Tudor.

So far back as the reign of King Edward IV. a mode of building, of a new character of domestic architecture as applied to palatial structures, was introduced in England. In the middle of the fifteenth century (for there are no satisfactory proofs of an earlier date), under the auspices of Philip the Good, Duke of Burgundy (1419-67), a peculiar invention of civil architecture appears to have originated, and was certainly much practised within his dominions; it may fairly be considered as a distinct mode, and denominated the "Burgundian." In that prince's palace at Dijon its features and discriminations were first exhibited, and these were carried to a higher degree of excellence in the Hall of Justice at Rouen, and likewise in similar edifices at Bruges, Brussels, Ghent, &c. The "Maison de la Pucelle" at Rouen is an admirable specimen of the Burgundian domestic architecture. Our English architects soon adopted in part the Burgundian style, aided probably by the increasing intercourse between Flanders and England. When any memorable change in the construction or ornament of any considerable castle or mansion house took place, the novel mode of building was adopted by others; such a transition from rude and massive strength to light and picturesque decoration may be traced with scarce less certainty than in sacred architecture; and although so few instances remain, they are equally to be referred to their own era. The Burgundian may be therefore considered, says Dallaway, as the true prototype of our Tudor style, and as being merely confined to the two two first reigns of that dynasty. A principal innovation in the early Tudor style was the introduction of gate houses, bay windows, and quadrangular areas of which castles constructed for defence could not admit. As to their materials, freestone or brick, they seem to have depended entirely upon the greater facility with which they might be acquired, and they were not unfrequently mixed. Trevisi and Holbein introduced both terra-cotta or moulded brickwork for rich ornaments and medallions, or bas-relievos fixed against the walls, plasterwork laid over the brick wall, and sometimes painted as at Nonsuch, and square bricks of two colours highly glazed and placed in diagonal lines, as at Layer Marney. The chimneys were clustered, and composed of columns twisted or wrought in patterns, with heads or capitals embossed with the cognisance of the founder, as at Thornbury Castle and Woolterton manor-house. Gateways were considered as a great feature in all these edifices, and constructed with most expensive ornament; that at Whitehall, designed by Holbein, was composed of square glazed bricks of different colours, over which were appended four large circular medallions of busts, afterwards preserved at Hatfield Peverel. It contained several apartments, but the most remarkable was the little study, called the New Library, in which Holbein was accustomed to employ himself in his art, and the courtiers to sit for their portraits. It was probably in this chamber that the well-known offence took place, of his resentment of an affront offered to him by a nobleman, and which is related by all the biographers of this great artist. The gateways at Hampton Court and Woolterton afford similar specimens.

Milan Cathedral.

In the Milan Duomo there is much of that ecclesiastical grandeur which in St. Peter's is wanting. There are, however, no gold soffites, no mosaics, nor various coloured marbles: one material only presents itself, and the entire effect rests in the design alone. Critically speaking, however, the cathedral of Milan abounds in the offence of incongruity, and it is this which must render it inferior as a model to several churches in England, Germany and France, although the latter may yield to it in scale, and although they cannot vie with it in costliness of decoration or material. The value of a gigantic exterior should not depend upon that microscopic examination of detail without which Milan Cathedral cannot be estimated, and by which we rather learn to prize the curiosity than to eulogise the true excellence of the work. The west front, with all its exquisite workmanship and marble wealth, is no more worthy of imitation than the naked brickwork of the unfinished cathedral at Florence. It is as offensive a combination as the language of the territory. In the one case we have Italianised Gothic, in the other Frenchified Italian—both abominable. The interior of the Milan church is also disfigured by several pieces of altar and monumental furniture either of a debased or wholly unfitting style of architecture, nor can we admit that the arches of the great nave have sufficient spring and richness. In fact, the vaulting generally is too simple, considering the superabundant richness of the exterior and parts of the interior. From the lantern, which is elegance exemplified, we look down upon a forest of pinnacles, each of which exhibits as much decoration as would give ample richness to the spire of a parish church. The flying buttresses are also individually beautiful and afford a most fascinating perspective. The lateral elevations and altar ends of the exterior are equally estimable both in respect to their general effect and exquisite details. Canopies of loftiest state and tracery fanciful as the poetry of "Midsummer Night's Dream," are here pervading. The interior, with its faults above quoted, is still distinguished by predominant excellence. The multiplied perspective of the nave and high embowered roof terminating in the angle of infinity bewilder cool judgment in their influence upon the soul. In the generally subdued body of light we are reminded of that mist of uncertainty which veils the future. In the bright effulgence of partial day we see the gleam of revealed truth.

Oriental Churches.

A Byzantine church might most fitly be defined as a gabled Greek cross, with central dome, inscribed in a square or quasi-square. This square has on the west an addition, not usually under the same roof, and sometimes a mere lean-to, and is on the east, externally for the most part, and almost always internally, triapsidal. The interior arrangement involves a fourfold division, into bema or sanctuary, choir, nave, narthex. The sanctuary is strongly marked off from the choir, the nave from the narthex. The choir and nave are less distinctly, and often not at all, separated. The narthex forms the western addition above named. The doors from one part of the church to another are more numerous and important than among the Westerns. The doors (1) between the bema and the choir—answering to our altar-rails—are called the "holy doors," a term often used among ourselves for the doors of the chancel-screen. The doors (2) between the choir and the nave are the "royal" or the "silver doors." Those (3) between the nave and the narthex are the "angelic doors"; and those (4) between the narthex and the porch, or the exterior, are the "beautiful gates."

Mr. W. Carruthers Laidlaw, 4 York Buildings, Edinburgh, has been successful in the competition for designs for an infectious diseases hospital for East Fife. Mr. Morham, city architect of Edinburgh, adjudicated on the twenty-five sets of plans submitted.

NOTES AND COMMENTS.

On Monday next the evening studio of the Architectural Association will come to an end. An address on the occasion will be delivered by Professor Pite. It was, we suppose, difficult to keep two schools going—the day school and the evening being to some extent rivals—and the older experiment must be superseded by the younger, for which it served as a pioneer. The change is another step in the transformation of the Association, and which eventually will deprive it of its original character as the most successful of all the mutual improvement societies. Under Mr. William G. B. Lewis the evening studio has been successful; and with a man who is an enthusiast for architecture, and gladly bestows the aid which his experience gives him on students, it could hardly be otherwise. It might be imagined that with so peculiar a plan of training, rivalry between students so differentiated as those of the day and evening classes would be advantageous; but the Council are no doubt the best judges of the means to success.

The sanguine philanthropists who are assured there would be no loss if the rural and other authorities erected houses for the working classes are likely to be disappointed when the report of the select committee now considering the subject appears. One of the officials of the Local Government Board said on Monday that hitherto there has been generally a loss. As a rule it was found that a cottage costs 200*l.*, and rent to provide interest at the rate of $2\frac{3}{4}$ per cent. on that sum, with an allowance for paying off the debt, was not obtainable. Local rates had to be increased, and the population in consequence emigrated from small towns and villages. One case was cited where the rates imposed in a Suffolk village in 1867-8 were 2*s.* $7\frac{1}{4}$*d.* in the pound, the population being 208 and the number of inhabited houses 39; whereas in 1901 the rates were 7*s.* 8*d.* in the pound, there were 36 inhabited houses, 6 uninhabited and the population was 106. Alderman Thompson, of Richmond, who is a leading authority on the subject, presented a return showing that of 578 cottages the cost of building averaged from 40*l.* to 70*l.* a room, and charging 2*s.* 6*d.* per week—which was the rule—for each 100*l.* expended, the rents were greater than a workman could pay. He considered that if standardising were adopted for the different parts of the cottages the cost would be largely reduced. Another obstacle to cheap construction was, in his opinion, the number of builders who contrive to get elected on the building committees of various towns.

The summer meeting of the Royal Society of Antiquaries of Ireland will be held in Killarney during next week, commencing on Monday. That is a region in which it will be difficult to pursue serious studies, for all the points of interest are to be visited. Parts of Thursday and Friday will be devoted to other picturesque regions, viz. Tralee, Ardfert, Aghadoe and other places. The papers to be read relate to subjects which are more or less local. But unless the weather is unpropitious they are not likely to be discussed at great length.

It is doubtful whether any modern group has been so severely criticised as the *Dance* by Carpeaux. If compared with its companions which stand in front of the Opera House in Paris it may be considered as animated, for if it does not express the poetry of motion, at least it suggests the unrestrained delight of bacchantes. When it was first revealed there was an outcry against so much abandonment having a permanent position in so public a place. As the authorities declined to remove the group a staining fluid was poured on it, which to many appeared as a sign of the downfall of the Empire. Rain has been allowed to inflict many other stains upon the work of Carpeaux and as the surface has also suffered from the atmosphere, there is a proposal to remove it to the Louvre or the Luxembourg, and to set up a copy instead. The majority of people in Paris are aware that two blocks of marble were employed for the group, for the junction is evident to all eyes. It now appears there are several pieces, and if removal is attempted it will be impossible to avoid injury to the work. There is a belief prevailing that the Opera House serves as a memorial of Imperial rule. Ardent Republicans are accordingly admirers of it. If proper provision had been made to carry off the rain falling on the building, the *Dance* would now stand in need of no extraordinary protection, but while the authorities are deliberating it would be well to enclose the group with class.

The "Class Illustrations" published by Mr. Batsford will increase the utility of Messrs. Fletcher's "History of Architecture on the Comparative Method." The information in the pages of that work has been condensed, and a lecturer can enlarge upon the statements with advantage to students. With the aid of the separate illustrations it would not be difficult to instruct a large class. The 300 plates are divided into four sections, viz. Classic and Early Christian, Romanesque and Gothic, Renaissance and Modern, and Non-Historical Architecture. The plates are printed on one side only, but they comprise over 2,000 subjects. Diagrams measuring 40 inches by 27 inches are also obtainable; and the two classes meet a want as substitutes for hand-drawn diagrams, which are expensive and difficult to produce.

ILLUSTRATIONS.

60, 62 AND 64 BROMPTON ROAD, S.W.

This building has lately been erected in the Brompton Road, S.W., consisting of shop with basement and mezzanine floor and four floors above for flats or offices. The front towards Brompton Road is faced with Messrs. Doulton's Carrara terra-cotta and red pressed bricks. The roof is covered with green Westmorland slates. The shop and mezzanine fronts are of mahogany.

Messrs. J. Allen & Sons, of Kilburn, were the general contractors, and Messrs. R. Moreland & Sons, Ltd., supplied the steelwork.

Mr. R. A. Briggs, F.R.I.B.A., was the architect, from whose designs and under whose superintendence the work was carried out.

PHŒNIX INSURANCE COMPANY'S NEW OFFICES, LEEDS: VIEW OF FRONT, SOUTH PARADE—INTERIOR OF OFFICES.

THE DOLPHIN, WALSALL.

This house has been erected for Messrs. Wm. Butler & Co., brewers, of Wolverhampton, the builder being W. Wistance, of Walsall, and the terra-cotta being supplied by Messrs. Gibbs & Canning, of Tamworth, from designs by Messrs. J. H. Hickton, F.R.I.B.A., and H. E. Farmer, F.R.I.B.A., architects.

THE ELEPHANT AND CASTLE, WOLVERHAMPTON

This is a rebuilding for the Manchester Brewery Co. The faïence was supplied by Messrs. Gibbs & Canning, the electrical work by W. H. Price & Co., of Walsall; and Messrs. Speake & Son, of Wolverhampton, completed the work from designs by Messrs. J. H. Hickton, F.R.I.B.A., and H. E. Farmer, F.R.I.B.A., architects.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W., Sir John Taylor, K.C.B., vice-president, in the chair.

The Annual Elections.

The results of the elections, as reported by the scrutineers, were declared as follows:—

The Council.

President.—Thomas Edward Collcutt.

Vice-Presidents. — James Sivewright Gibson, Edwin Thomas Hall, Henry Thomas Hare, Leonard Stokes.

Hon. Secretary.—Alexander Graham, F.S.A.

Members of Council. — Reginald Blomfield, A.R.A., M.A.Oxon, F.S.A., John James Burnet, A.R.S.A. (Glasgow), William Douglas Caröe, M.A.Cantab., F.S.A., Alfred William Stephens Cross, M.A.Cantab., Edward Guy Dawber, William Flockhart, Ernest George (past vice-president), John Alfred Gotch, F.S.A., (Kettering), Edward Augustus Gruning (past vice-president), Edwin Landseer Lutyens, Charles Edward Mallows, Edward William Mountford, Ernest Newton, William Alfred Pite, Andrew Noble Prentice, George Halford Fellowes Prynne, John Slater, B.A.Lond. (past vice-president), Paul Waterhouse, M.A.Oxon.

Associate Members of Council.—Henry Arthur Crouch, William Adam Forsyth, Sidney Kyffin Greenslade, Henry Vaughan Lanchester.

Representatives of Allied Societies.—Henry Dare Bryan (Bristol Society of Architects), Harry Sutton Chorley, M.A.Oxon. (Leeds and Yorkshire Architectural Society), Edmund Kirby (Liverpool Architectural Society), William Mansfield Mitchell, R.H.A. (Royal Institute of the Architects of Ireland), James Milne Monro (Glasgow Institute of Architects), Harbottle Reed (Devon and Exeter Architectural Society), Harold Ogle Tarbolton (Edinburgh Architectural Association), Howard Henry Thomson (Leicester and Leicestershire Society of Architects), John Henry Woodhouse (Manchester Society of Architects).

Representative of the Architectural Association (London).—Robert Shekleton Balfour.

Standing Committees.

Art.—Fellows: Reginald Blomfield, A.R.A., M.A.Oxon., F.S.A., William Douglas Caröe, M.A.Cantab., F.S.A., Edward Guy Dauber, Ernest George, James Sivewright Gibson, Henry Thomas Hare, Professor William Richard Lethaby, Ernest Newton, Edward Schroder Prior, M.A.Cantab., F.S.A., Paul Waterhouse, M.A.Oxon.—*Associates*: John Anderson, Robert Shekleton Balfour, Arthur Thomas Bolton, William Adam Forsyth, Sidney Kyffin Greenslade, Henry Vaughan Lanchester.

Literature. — *Fellows*: Reginald Blomfield, A.R.A., M.A.Oxon., F.S.A., Alfred William Stephens Cross, M.A. Cantab., Professor William Richard Lethaby, Edward Schroder Prior, M.A.Cantab., F.S.A., Halsey Ralph Ricardo, Professor Frederick Moore Simpson, Professor Ravenscroft Elsey Smith, Richard Phené Spiers, F.S.A., Hugh Stannus, A.R.C.A., Paul Waterhouse, M.A.Oxon.—*Associates*: William Adam Forsyth, Frank Lishman, William Henry Ward, M.A.Cantab., Percy Leslie Waterhouse, M.A.Cantab., Arthur Maryon Watson, B.A.London, Percy Scott Worthington, M.A.Oxon.

Practice.—Fellows: William Henry Atkin Berry, Charles Henry Brodie, Max Clarke, George Hubbard, F.S.A., Joseph Douglass Mathews, John Murray, Sydney Perks, Alfred Saxon Snell, Thomas Henry Watson, William Henry White.—*Associates*: Edward Greenop, Edwin Richard Hewitt, Herbert Hardwicke Langston, Thomas Edward Pryce, Augustus William Tanner, Robert Stark Wilkinson.

Science.—Fellows: Thomas William Aldwinckle, Max Clarke, Bernard John Dicksee, Matt Garbutt, Francis Hooper, Charles Stanley Peach, Sydney Perks, Herbert Duncan Searles-Wood, Alfred Saxon Snell, Lewis Solomon.—*Associates*: Robert John Angel, Henry William Burrows, F.G.S., Edwin Richard Hewitt, George Pearson, Augustus William Tanner, Ernest Alexander Young.

The hon. auditors are Messrs. Sydney Perks (*F.*) and William Arthur Webb (*A.*).

The London Traffic Commission Report.

Professor Beresford Pite, in opening the adjourned debate to Mr. Paul Waterhouse's paper which was read on May 21 last, said he thought the proposal of the Commission was primarily a matter for architects. It was certainly a question for architects rather than for engineers, and he ventured to suggest that since it was a matter of building, so long as the buildings of London were architectural the solution of the problem primarily concerned the architectural profession. The speaker then briefly dealt with the scheme in the manner in which it was presented in Mr. Waterhouse's paper. He said he would like to make a suggestion with regard to the formation of any new roads in London, and directed attention to the course of the river. The configuration of London was practically the configuration of the river and of its hills—Ludgate Hill and Pentonville Hill, &c. The river took a course shaped like a great S, with St. Paul's as one centre and Westminster as another. The traffic had adopted that curved line, and this should be recognised when discussing new schemes. The proposed new thoroughfares were not altogether satisfactory, and some of the terminations of the routes in the alternative scheme were open to criticism, for they seemed futile in their purpose. The eastern roads in London had a tendency northwards from the Bank, which was probably owing to the existence of the Docks. The great east to west road had the effect of drawing traffic away from the City, and in the same way the north to south thoroughfare did not seem satisfactory, because it rather neglected the tendency to approach the City—the heart of the Metropolis—and yet it did not relieve the north-western access, but only emphasised the difficulty. The south road also avoided the City. Speaking generally, the speaker said the western district was provided with an ample number of good thoroughfares. There were parallel streets to the main roads which relieved the congestion of traffic. To the south of Oxford Street there was not the same facility of movement from east to west, but they had to recognise the position of the Park. It would be obvious, he thought, that any improvement of means of access to London should follow the existing tendencies of the main thoroughfares. They rejoiced to hear a proposal which, if carried through, would demolish some of the existing buildings, but still he would like to suggest that London possessed a very large number of exceedingly beautiful buildings, and if they had a chance of clearing away certain areas and grouping the best buildings there would be no capital in Europe that could compete with the Metropolis. It was necessary to improve the line of access between our important buildings. If new roads could be opened up with that object in view they would be doing something which was more practical and more easily attained than the mere driving of a huge thoroughfare through the heart of the Metropolis. He asked whether it was possible to have an authority in London which would study tradition and support a continuation of architectural principles; which would watch perpetually and consistently street improvements so as to have the means of obtaining relief when it was most needed and when it could be done economically? He thought they had that body in the London County Council, though he was prepared to hear that others differed with him in this opinion. He could not help thinking that a body with an architectural staff and possessing statutory powers and a certain control over existing thoroughfares was the authority which ought to safeguard those interests. The improvement of the London County Council was very necessary and important, and he would like to suggest that their improvement in architectural matters was wholly in the hands of the members of the Institute, and if he Institute would take a wise line with regard to public ction they would be doing more good than adopting a critical attitude.

Mr. E. W. Hudson agreed with many of the proposals in Mr. Waterhouse's paper, and suggested the improvement of the Metropolis by the formation of elliptical avenues.

Mr. W. Woodward said they must arrive at the conclusion that there was no possibility of getting new thoroughfares in London to-day, but he suggested more advantage might be taken of the existing thoroughfares than was done.

Sir Aston Webb, R.A., also supported the vote of thanks.

Mr. H. D. Searles-Wood moved the following resolution:—"That the Council present a memorial to the Government urging that as the Royal Commission on London Traffic reports it to be necessary to open new thoroughfares and communications, it is most desirable, in order to preserve the architecture of London, that the profession of architecture should either be represented on the Board, or that a professional adviser or advisers should be employed by the Board that will be formed to deal with the laying out of the new thoroughfares."

Mr. John Slater seconded the motion, which was carried unanimously.

DAMASCENING AND THE INLAYING AND BLENDING OF METALS.*

THE ancient and beautiful art of damascening, which is probably due to the East, consists of inlaying one metal with another metal or metals, usually silver or gold, upon iron or steel in the form of wire or strip, into recesses or lines, which are dovetailed or undercut—that is, wider at the base than on the surface—with a specially-constructed tool, the whole surface being finally smoothed and polished. When broad bands of metal have to be laid on, the edges of the band are grooved or incised, saving much labour and economising the precious metal to be inlaid.

Damascus sword blades must not be confused with damascening, which is a distinct art. Their peculiar variegated watered appearance, and the method by which the structure is produced, has been a matter of speculation. Dr. Percy, in his book on the "Metallurgy of Iron and Steel," explains it thus :—

"The damasked portion is due to the difference in colouration, resulting from the action of acids on iron and steel, the surface of the former being left with a metallic tissue, and that of the latter being left coated with a black firmly-adherent carbonaceous residue. By suitably piling together bars of iron and steel, welding them, and drawing them out under the hammer or otherwise, patterns of various kinds may be produced, just as it does in the case of glass, by heating together variously-coloured pieces of glass and drawing them out into rods."

In the thirteenth century Theophilus the Monk, when writing on artistic handicrafts, described the process of damascening; in Persia, China and Japan it was practised before that period with most artistic results. In the British Museum can be seen the remains of the celebrated Etruscan car embellished with fine examples of damascening.

This rich method of surface ornamentation, which can also be very delicate in design, was practised in the East long before it was introduced into Europe from Damascus, the chief city of the Moors. During the sixteenth century, in the time of Cellini, it was freely practised in Italy, being specially employed for the decoration of weapons and armour. The Arab work done by the Moslems in Northern India is some of the most beautiful. In Kashmir, vessels of copper and brass are very effectively inlaid with tin, an art which, like many decorative arts, appears to have originated in Persia. The Arabic-speaking people, the Chinese and the Japanese are fortunate in possessing a system of written characters which are beautiful in themselves and readily lend themselves to damascening work. During the Dark Ages the art appears to have been lost, except for some church gates at Rome, made in 1070 at Constantinople.

I will now show you some lantern-slides illustrative of Indian, Italian, Spanish, Saracenic, Persian and Japanese damascening. The first is a specimen of Italian work, about 1550, made for the royal family of Savoy, and is a mirror of burnished metal, in a stand of steel damascened in gold and silver. The frame is of architectural design, supported on scrolls, which rest on a square box, with scrolled angles and feet. The whole is covered with medallions of classical subjects, arabesque, cartouche, &c., in gold and silver. At the back of the mirror is a religious subject, with "The Saviour and the Angels" in niches; the whole is surmounted by a group of Venuses and Cupids. The next is a Spanish gauntlet, sixteenth century, damascened with military trophies, palm branches and wreaths in gold, and with foliage; the knots are gold and silver. The following slide is a Japanese dish, inlaid in various diapers in silver, and a border of leaves and grapes. In the centre is the medallion head of a man holding his hands to his cheeks, surmounted by a similar border, from which six petals diverge, inlaid with flowers in gold and silver. The next illustration is probably the work of Saracenic craftsmen settled in Venice; the bronze salver is engraved and damascened with gold and silver, and the interstices filled with black lac; in the centre are the enamelled arms of the family of Verona. Now follows a specimen of Indian work; the ewer is damascened on silver and gold, dated 1400 A.D. The metal on which the gold and silver is inlaid is a zinc alloy, blackened by pickling in a solution or applying, in a pasty condition, of chloride of ammonia, common salt, nitre and sulphate of copper. The alloy employed by different craftsmen is found to vary considerably; the following is a typical analysis :—

Lead	1.437
Tin	trace.
Iron	.039
Copper	6.905
Zinc by difference	91.619
	100

The next illustration is another specimen of Indian work, about 1770, and is the base of a water-pipe or hookah, damascened with gold and silver. The final illustration is a Persian shield, damascened with gold and silver, chased with flowers, animals and an inscription.

Niello.

I will now pass on to niello, which is similar to damascening, only inasmuch as the metal to be ornamented has to be engraved, it is filled with a metallic sulphide instead of being beaten in metal. The process consists of incising lines on the metal as in copperplate engraving, and filling them with a compound of sulphur, silver, copper, lead and borax. In this way very effective results are obtained, the finished work having the appearance of a drawing in black on a metal plate. The word "niello" is derived from "niger," and refers to the colour of the enamel. The modern copper or brass doorplate, filled with black enamel, is really niellowork.

Our knowledge of the process and materials employed in niellowork is largely derived from Eraclius, the Roman, a writer of about the eleventh century. The goldsmiths of Florence, in the middle of the fifteenth century, were in the habit of ornamenting their works by means of engravings, after which they filled up the patterns produced with a black enamel, made of silver, lead and sulphur, to make the design more visible by the contrast of enamel and metal.

The monk Theophilus, already referred to, also mentions niellowork. His recipe is silver one part, copper one-third part and lead one-sixth part, all to be fused together with yellow sulphur by melting in a crucible, the composition, after cooling, being powdered and applied to the metal at a low heat, with a flux of parachas gum, which was probably borax. The procedure was as follows :—The design, having been cut with a sharp graving tool on the smooth surface of the metal, which was usually silver, but occasionally gold, a solution of borax, to act as a flux, was brushed over the metal plate and thoroughly worked into its incised lines. The powdered sulphide compound was then shaken on to the plate so as to completely cover all the engraved pattern. The plate was then carefully heated over a charcoal fire and fresh compound added, as the powder fused, upon any defective places. When the powder had become thoroughly liquid so as to fill all the lines, the plate was allowed to cool and the whole surface was scraped to remove the superfluous niello, leaving only what had sunk into and filled up the engraved pattern. Last of all, the niello plate was very highly polished till it presented the appearance of a smooth metal surface enriched with a delicate design in fine grey-black lines. This process was chiefly used for silverwork on account of the vivid contrast between the whiteness of the silver and the darkness of the niello. As the slightest scratch upon the metal received the niello and became a distinct black line, ornament of the most minute and refined description is easily produced.

Niellowork is responsible for having originated plate-engraving. The artist or craftsman, when executing a piece of niellowork, was in the habit of making a sulphur cast of his niello in progress on a matrix of fine clay, and filling in the lines in the sulphur with lamp black, thus enabling him to judge of the effect obtained by his engraving process. At a later period it was discovered that a proof could be taken with damp paper, by filling the engraved lines with ink and wiping it off the surface of the engraved plate, sufficient pressure being applied to make the paper enter the lines containing the ink. This was the beginning of plate-printing, but the value of the discovery was not realised until some considerable time afterwards. It was merely employed as a convenient method by niello engravers of proving their work and saving the double process of making a sulphur cast.

Statuettes, fibulæ and the centre of silver dishes decorated with niellowork, combined with part-gilding, were apparently in considerable favour during the first few centuries of the Christian era. In 1793 some beautiful specimens of niellowork were found near the Esquiline Gate, belonging to a Roman lady. In the time of King Alfred there appear to have been a number of gold orna-

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[*] A paper by Sherard Cowper-Coles, read at a meeting of the Applied Art Section of the Society of Arts.

ments decorated with niello.* The art of niellowork is still kept up in Siam, Turkey, Burma and Italy, but is most largely practised in the Caucasus for decorating all classes of metal objects. I will now show you a lantern slide of a silver and gilt niello cup, engraved with figures, roses and festoons, made in Russia in 1792; the snuffers in the foreground are French damascened work about 1700; they are blued steel, inlaid with gold.

Processes.

There are other minor processes employed for inlaying and decorating metals, which I will briefly describe:—

The ether process consists in using a composition of sulphuric ether and nitro muriate of gold, which are mixed together, the ether by degrees becoming impregnated with nearly the whole of the gold, and retaining it for a long time in solution. The ether thus charged is painted on the surface of the ornament with a camel's hair brush. After evaporating the ether by heating to a temperature of 150 degs. F., the gold is finally brightened with a burnisher. The coating thus obtained is very thin, and is only suitable for decorating articles not subjected to wear.

Parcel or close plating consists of onlaying flat pieces of metal on the surface to be decorated, in much the same way as veneering, the metal being attached by means of a low melting-point solder. A modification of this process consists of cutting out the same patterns in two different coloured metals, and interposing the portions removed.

A process occasionally employed for decorating metallic surfaces consists of engraving or etching on a flat surface the desired design, and then running into the sunken portion molten metal. This process is very costly, and is only applicable to flat surfaces.

In the electrical process those parts of the metal which it is intended should not be inlaid are stopped off with a suitable composition for resisting, such as a varnish or beeswax, and gold or silver or other metal or metals are deposited by the usual method of electro-deposition, the plate having been previously etched if the pattern is to be level or flush with the surface decorated, or the pattern or design can be raised by omitting the etching process. The illustration now thrown on the screen is a zinc plate, etched and inlaid with copper by electro-deposition, and the next is a copper plate, with a raised design in zinc electro-deposited.

In the lead process a design or picture is etched by means of acids, either by hand or by photography, on a thin plate of steel or other metal. The etched side of the plate is then brought into contact with molten lead, and when the play of colours produced on the plain side results in the desired effect, the plate is immersed in cold water or oil. In this way, heat having been conducted through the various portions of the plate at rates inversely proportional to their thickness, yields colour due to different thickness of oxide on the plain surface, which represents the etched design on the reverse side. By such a process beautiful colour effects can be obtained, but the result is not permanent. Some specimens of this work will be found on the table.

This brief description of the allied processes would not be complete without a reference to tarsia or wood mosaics, or marqueterie, which is often combined with metallic inlaywork. Tarsiawork is the same as damascening in principle, but applied to wood—that is, wire is hammered into grooves cut in the wood to receive them. In a recent development in tarsiaturan work wood veneer is cut out corresponding to that portion of the pattern that is ultimately to be represented by metallic inlay, and fastened down on to a sheet of metal provided with teeth for holding purposes. The back of the sheet is protected with varnish and the whole is placed into a copper electro-depositing solution. A deposit is thus obtained on the bare metal, which eventually becomes flush with the surface of the surrounding veneer. Buhlwork is also similar in many respects, but is chiefly applied to inlaying of brass and tortoiseshell. The brass is laid on to a wood base in the form of strips, and the tortoiseshell inlaid between.

New Process of Inlaying and Ornamenting Metallic Surfaces.

I will now describe to you a new process, which is based on a discovery made by myself about five years ago, when conducting some experiments on the annealing of iron, viz. that metals in a fine state of division, subjected to a temperature several hundred degrees below their melting-point, in contact with a solid metal, volatilise, or give off the vapour, that is in the form of a powder, when heated, which condenses on the solid metal placed in the powdered metal.

This discovery has recently been turned to account for the inlaying and ornamenting of metallic surfaces, enabling results to be obtained similar to damascening, but with the additional advantage that there is no risk of the metals finally separating, as is often the case in damascening, as will have been observed in some of the illustrations shown to-night.

The new process also enables a variety of effects to be obtained, and a number of metals to be blended together which has hitherto been impossible, and alloys of many colours and tints to be obtained in the one operation of baking. The thickness and depth to which the metals are to be inlaid and onlaid can be controlled at the will of the operator.

The *modus operandi* of the process consists in coating the article with a stopping-off composition, those portions which are to be inlaid being left exposed. The composition is about the consistency of cheese, so that it can readily be cut with a knife; the design is traced with a sharp edged tool, and those portions to be removed are lifted and cleared away. The object thus prepared is placed in an iron box containing the metal which is to be inlaid in a powdered form. If zinc is the metal to be inlaid, zinc dust is the powder that will be employed, which is a product obtained direct from the zinc-smelting furnaces. The iron box holding the powdered metal and the objects to be ornamented is then placed in a suitable baking oven and heated to a temperature many degrees below the melting-point of zinc, 686 degs. Fahr., so that the temperature to which the zinc dust is heated is about 500 degs. Fahr. My assistant, Mr. Gardner, will now take four small copper plates prepared with a scroll design and place them in an iron box, and fill it with zinc powder, and heat the box in a small gas furnace, matters being so arranged that the operation of inlaying will occupy about ten minutes, by which time I shall have concluded this paper. He will then open the box and show you the results obtained. The time and temperature is regulated according to the thickness and depth of the inlaying which is required to be obtained, and varies from a few minutes to several hours. A little experience soon teaches the operator the best time and temperature necessary for obtaining given results with different metals. When the article has been baked for a sufficient time the box, after preferably being allowed to cool, is then opened and the article removed and brushed with a stiff brush, to remove the stopping-off composition which has become loosened during the process of baking; the process of stopping-off and baking can be repeated several times when it is desired to inlay two or more metals. It will, no doubt, have occurred to many of you that the metal box containing the powdered metal will rapidly become thickly encrusted with metal, but this is found not to be the case, the reason being that the metal box is hotter than the powdered metal. A useful type of furnace or baking oven for general work, such as panels, trays, &c., consists of a wrought-iron box 8 feet long and 4 feet broad, 1 foot deep. The box is half filled with zinc dust, and the articles to be baked are placed in the zinc dust and well covered over with it, a lid placed on the top of the box and over this an iron framework, carrying firebricks and with a small central flue to draw the heat from the burners up the sides of the box and over the top, to insure even heating. Such a furnace can be constructed at a cost of about 30*l.* complete. Damascening produced by this method is of a more permanent character than the older method. There is no possibility of separation, as the metals are alloyed together and the inlay can be carried to any depth, and it is found that the inlaying metal, in the case of zinc, is very much harder than the brass or copper into which it is inlaid.

A feature of considerable importance is that a variety of colours and alloys can be obtained in the one operation of baking. I will take for an example a copper tray which it is desired to inlay with zinc, and at the same time to convert certain portions of the copper into brass. This can be done by varying the thickness of the stopping-off composition, and by baking at a somewhat higher temperature than would otherwise be employed. The result is that certain portions can be converted into golden-coloured brass, the other portions remaining unalloyed copper. In the example taken, certain portions of the foliage and birds are a combination of brass and copper. Another is a hammered copper dish, inlaid with zinc, in which a different effect is obtained, as the hammer marks continue to show in the zinc inlay. Also is a copper table top inlaid with zinc; in this case the zinc inlay is smooth and copper-hammer marked, and a gong inlaid with zinc, surrounded with a line of brass. Another example is a copper dish inlaid and onlaid with zinc, the zinc being raised as much as one-sixteenth of an inch above the surface of the copper. An iron box is inlaid with zinc and enamel. The whole of the surface of an alms-dish was burnt with zinc, and the pattern etched down to the different alloys formed, intermediate between the zinc and brass, so as to obtain a variety of colours. A book-cover is done in a similar manner, with the exception that the outline of the pattern has been chased and the whole of the design etched down to the copper. A copper liqueur tray is inlaid with zinc and brass, the zinc pattern being considerably raised.

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* Those who wish for further information regarding niellowork should read a paper delivered before this Society by Mr. Cyril Davenport. (*Journal*, vol. 48, p. 245.)

Without exception, the samples I have shown you by means of the lantern are two metals giving a decided contrast, such as copper and zinc, as the more subtle contrasts between zinc, tin, aluminium, nickel and cobalt, and similar coloured metals are difficult to photograph, but a number of specimens will be found on the table.

The new process is not confined to flat surfaces, but can be readily applied to raised surfaces. This process is also adaptable to the finest work as well as very bold work.

This new process of burning in and blending metals enables a very beautiful colour effect to be obtained, with great subtlety of colour; the colour effects ranging from silver-white zinc to yellow brass and bronzes of various shades, graduating to red copper and autumnal shades of yellows and golden browns.

A great charm about this new process of inlaying metals, and one that is unique, is that the inlay has not the sharp line of demarcation, as is essential to damascening, but a soft transition from the inlaid metal to the surrounding metal. For instance, in the case of inlaying zinc into copper, it will be observed that the zinc is surrounded by a band or halo of a golden-coloured alloy.

This process of inlaying or damascening is not confined to zinc and copper, but has been successfully applied to such metals as nickel, cobalt, antimony and aluminium. Some specimens of these metals, inlaid one with another, will be found on the table.

In conclusion, I venture to express the hope that this new process of inlaying and blending metals in its more advanced state may be the means of reviving in England the beautiful art of damascening and the inlaying and blending of metals, and bring damascened metalwork within the scope of all lovers of the artistic, and that it may become an industry of villages, to which it readily lends itself. The old method of damascening is essentially an Eastern craft, dependent as it is on skilled, cheap and patient labour. The process which I have described to you to-night is capable of producing inlaid work, both of elaborate and delicate designs, in a few hours, yet each piece produced has its own individuality, and truly records the touches of the artist. I should also like, before closing, to thank those who have helped me in the preparation and production of the various specimens which are exhibited to-night.

SEA EROSION AND COAST PROTECTION.

A CONGRESS was held last week at Eastbourne of the South-Eastern Union of Scientific Societies. Among the papers read was one on "Sea Erosion and Coast Protection," by Mr. Edward A. Martin, F.G.S. The author, says the *Sussex Daily News*, prefaced his remarks by recalling the public attention awakened in the subject during the last few years. The movement, he went on to say, had in view possible assistance from the National Exchequer in the direction of meeting the cost which has fallen on local authorities, and of seeking relief from the necessity of having to pay for what is held by them to be a matter of national interest. In this connection it was, he stated, instructive to note that in the well-known case of the Attorney-General *v.* Tomline it was held that it was the duty of the Crown "to protect the realm from erosion by the sea by maintaining such national barriers as existed against it," and it was also pointed out that the removal of shingle from Spurn Head was prohibited by the Board of Trade.

Foremost among those parts of the coast which have suffered from inroads of the sea, Mr. Martin placed the whole line of coast stretching from near Flamborough Head in Yorkshire to the mouth of the Thames. Next in importance so far as loss by denudation is concerned, he took the line of coast stretching from the North Foreland to Folkestone, consisting of chalk with superimposed beds of Eocene age at Pegwell Bay. With this he coupled the coast between Eastbourne and Brighton, also consisting of chalk cliffs, but with important beds therein of Eocene age, as at Seaford and Newhaven, and with post-glacial beds on the eastern side of Brighton. To the west of Brighton the trend of the chalk hills inland has exposed the tertiaries of West Sussex to the sea, and the existence of the Isle of Wight as an island is, on the face of it, evidence of loss by erosion of the Eocene and Oligocene beds which were at one time continuous across the Solent and Spithead. On the western coasts history recorded less waste by sea erosion, in consequence of the harder nature of the strata exposed.

After considering the progress of erosion as shown in the historical period, Mr. Martin submitted that for evidence of loss of land on the western coast by the incoming of the sea during historical times they must look to subsidence as the cause, except in those places where the line of coast exposed was made up of glacial or alluvial clays and drift; but of sea erosion on the eastern and south-eastern coasts as attributable to subsidence he had been unable to trace any evidence. The rate at which the coast was eroded varied considerably according to the nature of the material of the cliffs; at two spots even in close proximity to one another the rates might vary. In a special table showing estimates of rates of erosion, Mr. Martin included the following figures relating to the Sussex coast:—

"Eastbourne, Splash Point, 'nearly a furlong' from 1717 to 1841; Round House, 3 acres in ten years to 1887; east of Circular Redoubt, 238 feet in forty-nine years.

"Worthing, 70 feet in twelve months; between Selsea Bill and Chichester Harbour, 15 feet to 20 feet in a year; between Littlehampton and Bognor, 4 feet to 5 feet a year."

Leaving aside the consideration of falls of cliff due entirely to want of natural drainage and other aerial agencies, cliff erosion arose from waves breaking over the sea-shore and thus removing fallen detritus, and when raised on the shoulders of the tidal wave pounding the cliffs like a battering ram, portions broken off being in turn utilised as a means of further assault. The flow of shingle along the southern coast was in the direction of the prevailing wind—south-west; and wherever groynes had been erected on this coast the western sides had been the first to be filled with beach, the supply, practically unlimited, being from the west. All efforts at coast protection had been devoted to the invention of the best means of arresting some portion of the supply, in order to create a substantial strand of beach, this being acknowledged to be the best protection which could be afforded to a line of cliffs. But each town which had in turn pushed groynes out into the sea had arrested a part of the supply, and each had in turn starved the coast line for some miles to the east of it until its own groynes had become filled on their windward sides. The same supply had been a fruitful source of expense to various harbour authorities in keeping open a channel to the sea.

Seventy years ago the outfall of Shoreham Harbour, or rather of the river Adur, was at Aldrington, a long spit of beach parallel to the coast having been formed, while the river pursued its way four miles along the coast before entering the sea. A new outfall was subsequently made near Shoreham, and a pier, which was constructed in 1874 on the west of the outfall, stopped the flow of shingle into the river channel until now there is a bank of shingle over a quarter of a mile wide. But Brighton suffered through this appropriation of the shingle, as well as by the protective measures which were taken to preserve the spit of land lying between the "Basin" and the sea at Aldrington, on which, in 1871, the Brighton and Hove Gasworks had been built. In the course of time the requirements of these works were met and the supply flowed on again. Hove has since trapped as much as she needs; Brighton has pushed her esplanade further out into the sea (the Aquarium is built on reclaimed foreshore), and new works, in the shape of walls and groynes, now extend as far as Black Rock, Kemp Town. Here they come to an end, and the sea sweeps round on to the unprotected cliffs, which for a distance of about half a mile consist unfortunately only in part of chalk, the upper three-fourths being of post-glacial rubble, which is acted upon very rapidly by atmospheric agencies. The scour of the waves at high tide loosens the chalk platform on which the rubble-drift rests, and marine and subaerial denudation combine to act irresistibly upon the defenceless cliff. Again, at Newhaven the sea-wall and other works on the west side of the harbour entrance have resulted in the accumulation of a great amount of shingle and has prevented the beach so arrested from filling up the harbour channel. Here, again, the river Ouse had in former years been turned to the east by the westward flowing shingle until it made its entrance into the sea at Seaford. Those who know that town now scarcely realise this important fact. Another instance of the kind is found in the west pier of the harbour at Folkestone, which was built in 1856 to prevent the easterly drift of the shingle across the mouth of the harbour, the bar of which was dry at low tide. In seventeen years the beach advanced on the westward side 120 feet for a length of 500 feet. The result of this pier and subsequent extensions has resulted in a wide stretch of level beach, on which pleasure gardens, &c., have been constructed, the whole area having been reclaimed from the sea.

In order to protect coasts from erosion they must imitate nature as far as possible, and discover what are the means which she has employed in those places where sea erosion was comparatively unknown. The chief protection was a sloping shingle beach, and the principle of groyning was to intercept the flow of gravel after having ascertained the direction whence it came. Thirty years ago the favourite form of groyne was of wood and of great height, arresting enormous quantities of gravel, but heaped all on one side. For many years these groynes, as, for instance, those in front of the Brighton Aquarium, exhibited a precipitous face to the east with a drop of as much as 20 feet. This form had now almost entirely been discarded in favour of the low type, formed of concrete, so that as the windward side became filled up the gravel fell over on to the other side and filled that up. The tendency was in these cases for the groynes to become completely hidden in a few years by an equable deposition on both sides. The attempt to attract a beach in front of the sea-wall at Hove by means of groynes set diagonally to the south-east instead of at right angles to the shore was a failure, and the use of sloping groynes is not now recommended unless a terminal portion be added at right angles to the shore. Acting on the principle that the shallowing of a shore tends to cause the tidal current to drop its burden, 20,000 tons of shingle, dredged from the mouth of Shoreham harbour, where it was very undesirable, were emptied from hopper barges into the sea in front of the Hove lawns, and this artificial accumulation arrested much of the westward flowing gravel, besides acting as the nuclei around which shingle has since accumulated. Much of it has in the course of time been washed up on shore, and no fears are now felt as to the safety of the sea wall. This artificial dumping of material might, he thought, be utilised more often in the future.

The all-important question which had of late been raised was as to who should bear the expense of protecting the coast. Local authorities had been at great expense to protect the mile or two of coast with which they were more particularly concerned, and although the outcry was that the cost had fallen very hardly on small municipalities, the chief practical question was the protection of lines of coast but sparsely populated—rural sea frontages, as they might be called, in contradistinction to urban sea frontages. It must be borne in mind that the works which had been reared by urban authorities had done much in the way of increasing the erosion of rural sea frontages; and any expenditure which the State might undertake in this direction should be devoted for the most part to the long stretches of coast away from the towns. The actual cost of protection varied considerably, and of course where, as in the case of Hove in 1884, a wide strip of foreshore, in this case 30 yards, was reclaimed from the sea, the works necessarily might reach a very high figure. At Hove the protective works along a frontage of 720 yards, including groynes, granite-faced sea wall and the artificial dumping already referred to, cost upwards of 60,000*l.*, or 85*l.* per lineal yard. On the other hand it had been estimated that a long strip of frontage of wasting cliffs not requiring a sea wall might by a series of wooden groynes be protected at a cost of 1*l.* 10*s.* per lineal yard of coast. The subject was one which must come to the front more and more in the future, and the taxpayer would no doubt have a word to say ere the public exchequer was drawn upon to protect land in which he had no direct pecuniary interest.

Mr. Edmund Woodthorpe, M.A., F.R.I.B.A., architect and surveyor, of 1 Circus Place, Finsbury Square, E.C., left property to the value of 10,744*l.*

THE OLD CITY WALL OF EDINBURGH.

THE town clerk of Edinburgh has prepared a report, on the instruction of the treasurer's committee of the Town Council, with reference to the ownership of the wall on the north side of George Heriot's hospital grounds. The question was raised, says the *Scotsman*, by a representation from the governors of Heriot's Trust that they contemplated erecting drawing classrooms on the north side of their ground, and they asked the Town Council to allow them to use the north wall for the support of the proposed buildings, which were described as "mutual." At a later stage the Heriot governors claimed proprietary rights over the wall, and insisting that the Council should admit the validity of their claim to ownership, declined to pay compensation to the Corporation. The committee of the Town Council maintained that the wall belonged to the Corporation, and that the Heriot governors could not build upon it without their consent. The town clerk, in his report, points out that the wall is part of the old Flodden wall which was built for the protection of the city after the battle of Flodden in 1513. That wall and its site belong to the Corporation as part of the property held by them under their royal charters. In many places portions of the original are still standing, and although at this particular part the wall was rebuilt by the Corporation in 1889, it was rebuilt on the same site. Down to the year 1618 the land which now forms Heriot hospital grounds was part of the estate of Inverleith. In the year mentioned, however, the city purchased from Sir George Touris, of Inverleith, for 9,000 merks Scots, "the ten acres of land, part of Hieriggs." In the disposition by Sir George to the Corporation, the lands bought by the city were described as bounded by "the Town Wall of the said Burgh from the turn and west round of the said wall to the Society Port *upon the north.*" Shortly after the purchase was concluded the Council gave instructions for the erection of a dyke round the land, and one John Telfer, a contractor, executed this work for the Corporation in 1620. The town clerk points out that "the title of the Corporation to the ten acres of Hieriggs being thus bounded by the old Town Wall no acts of their successors in the title could acquire by prescription ownership of any part of that wall outside the limits of the boundary titles." In 1627 the Town Council sold a portion of their lands at Hieriggs to George Heriot's trustees, who described their purchase as having been "lately acquired by the guid town from Sir George Touris, of Inverleith, knicht, and the thereefter invironit with a wall and incorporat with the rest of the said burgh." The portion so to be sold was fixed at 8½ acres out of the 10 acres acquired by the city. The ground purchased was to be held of the "guid town in free blench for payment of a penny when asked, and a sum of 7,650 merks by way of grassum." Presumably the wall was included in the purchase, and the governors of Heriot's Trust, Mr. Hunter states, may have subsequently from time to time repaired or even renewed it, but that could not affect the ownership of the city wall outside their boundary. Early in the "forties" of the seventeenth century the governors of Heriot's Trust purchased the properties on the south side of the Grassmarket in order to make a passage way from the Grassmarket to their lands. To make that passage of any use they had to obtain permission for an opening in the city wall, and for this they applied to the Town Council, who, on April 24, 1644, authorised the treasurer of Heriots' Hospital "to demolish so much of the town wall lying benorth Heriot's Hospital to make an entry to the hospital grounds according to the design shown to the Council." By that time, Mr. Hunter says in his report, no one disputed that the ownership of the wall was with the Corporation or suggested that it was included in the Heriot feu.

The hospital lands were occupied by Cromwell's troops after the battle of Dunbar in 1650 down to 1658, so that it was not until the latter year that the lands were available for the hospital purposes. In 1888 it was found necessary to rebuild the old city wall. At that time it was thought that the Heriot garden wall stood upon a foundation afforded by the inner part of the city wall; but when the Heriot wall was removed it was found to have been standing on Heriot ground, clear of the city wall by some inches. That, says Mr. Hunter, corroborates the statement that the garden or boundary wall was built entirely on Heriot ground clear of the old city wall. Mr. Hunter relates that when the Town Council described themselves as proprietors of the wall in the petition granted by the Dean of Guild Court for the rebuilding of the wall the Governors of Heriot's Trust acquiesced in the petitioners' statement. They paid to the city 134*l.* 10*s.* 1*d.*, being half the cost of the rebuilding operations; but, says Mr. Hunter, "it was no doubt worth their while," for they obtained the city's permission to re-erect their own wall—the inner or garden wall—upon the top of the rebuilt city wall. Mr. Hunter suggests, if the Governors have since learned that they can claim ownership of the wall, "they may be expected to offer to repay to the Corporation, with interest, the 134*l.* 10*s.* 1*d.*, being the half cost which the latter paid in 1889, under what the Governors now apparently regard as error."

In concluding his report, the town clerk says:—"If the erection of the wall is to be regarded as a material point, the original erection of the Flodden wall, and its rebuilding by the Corporation in 1889 points to the Corporation as owners; whilst the erection, or renewal, of the garden wall by the Governors inside their ground in 1814, separate from the Flodden wall, and its removal by them in 1888, points to the Governors as being its owners. A reference in an old minute to the rebuilding of a town wall, which is not identified, and which may either have been the predecessor of the wall of 1814, or more probably be situated elsewhere, is not sufficient to discharge the onus upon the Governors when they undertake to show how and when the Corporation transferred to them the property in the city wall and its site."

PROTECTION OF THEATRES.

THE following report of a special committee of the National Fire Protection Association of the United States on the subject of construction and equipment of theatres as protection against the fire hazard has been issued:—

The specifications for steel and asbestos theatre curtain which we include are additional matter, our thought being that steel curtains similar to those required in Chicago should be the standard of this Association, relegating the asbestos curtain to second place as a sub-standard curtain. We intend eventually to submit for adoption by the Association a separate standard for openings in roof over stage to provide for escape of smoke. With these explanations, our specifications are as follows:—

Every such building shall have at least one front on the street, and in such front there shall be suitable means of entrance and exit for the audience.

In addition to the aforesaid entrances and exits on the street, there shall be reserved for service in case of an emergency an open court or space on the side not bordering on the street, where said building is located on a corner lot, and on both sides of said building where there is but one frontage on the street. The width of such open court or courts shall not be less than 7 feet where the seating capacity does not exceed 1,000 people, exceeding 1,000 and not more than 1,800 people 8 feet in width, and exceeding 1,800 people 10 feet in width. Said open court or courts shall begin on a line with or near proscenium wall, and shall extend the length of the auditorium proper, to or near the wall separating the same from the entrance lobby or vestibule.

A separate and distinct corridor shall continue to the street from each open court, through such superstructure as may be built on the street side of the auditorium, with continuous walls of brick or fireproof materials on each side of the entire length of said corridor or corridors, and the ceiling and floors shall be fireproof. Said corridor or corridors shall not be reduced in width to more than 3 feet less than the width of the open court or courts, and there shall be no projection in the same; the outer openings to be provided with doors or gates opening toward the street. During the performance the doors or gates in the corridors shall be kept open by proper fastenings, at other times they may be closed and fastened by movable bolts or latches.

When located on a corner lot that portion of the premises bordering on the side street and not required for the uses of the theatre may, if such portion be of fireproof construction and not more than 25 feet average width, be used for offices, stores or apartments, provided the walls separating this portion from the theatre proper are carried up solidly to and through the roof and that an exit is provided for the theatre on each tier, equal to the combined width of exits opening on opposite sides in each tier, communicating with balconies and staircases leading to the street in the manner provided elsewhere in this section.

No workshop, storage or general property-room shall be allowed above the auditorium or stage, or under the same, or in any of the fly galleries, unless all of such rooms or shops are located in the rear of or at the side of the stage, and in such cases they shall be separated from the stage by a brick wall not less than 12 inches in thickness, and the openings leading into said portions shall have self-closing standard fire doors.

No portion of any building hereafter erected or altered, used or intended to be used for theatrical or other purposes in this section specified, shall be occupied or used as a hotel, boarding or lodging-house, factory, workshop or manufactory, or for storage purposes, except as may be hereafter specially provided for. Said restriction relates not only to that portion of the building which contains the auditorium and the stage, but applies also to the entire structure in conjunction therewith.

Interior walls built of fireproof materials shall separate the auditorium from the entrance vestibule, and from any room or rooms over the same; also from any lobbies, corridors, refreshment or other rooms. And in all such walls the window and door frames and all sash and doors shall be fireproof, the window frames and sash shall be of metal of standard construction, and the sash made stationary and glazed with wired glass not less than ¼-inch in thickness, and each pane or unit measuring not more than 24 by 30 inches. The doors shall be made to close automatically, and be fireproof, of standard pattern and make in every respect.

All staircases for the use of the audience shall be enclosed with walls of brick or of fireproof materials in the storeys through which they pass, and the openings to said staircases from each tier shall be the full width of staircase. No door shall open immediately upon a flight of stairs, but a landing at least the width of the door shall be provided between such stairs and such door. A firewall built of brick, not less than 12 inches in any portion of same, shall separate the auditorium from the stage, and the same shall extend at least 4 feet above the stage roof or the auditorium roof, if the latter be the higher, and shall be coped. Above the proscenium opening there shall be an iron girder of sufficient strength to safely support the load above, and the same shall be covered with fireproof material not less than 4 inches in thickness.

The proscenium opening shall be provided with a fireproof metal curtain or a curtain of asbestos, or other fireproof material approved by the underwriters having jurisdiction, overlapping the brick proscenium wall at each side not less than 12 inches, and sliding vertically at each side within iron grooves or channels to a depth of not less than 12 inches, said grooves or channels to be securely bolted to the brick wall and extend to a height of not less than 3 feet above the top of the curtain when raised to its full limit. Said fireproof curtain shall be raised at the commencement of each performance, lowered between each act and lowered at the close of said performance, and be operated by approved machinery for that purpose. If the proscenium curtain be of asbestos, that material shall be reinforced with wire or wire spun in the asbestos, and at the bottom of the curtain shall be placed a rigid metallic rod or bar of proper weight, securely fastened to the curtain and covered over with like material as the curtain itself, to carry down the curtain by the weight of the said rod or bar when released. The excess weight of the curtain is to be overcome by a check-rope of cotton or hemp, extending to the floor on both sides of the stage, so that the cutting or burning of which will release the curtain and the same will then descend at its normal rate of speed. The proscenium curtain shall be placed at the nearest point at least 3 feet distant from the footlights.

No doorway or opening through the proscenium wall from the auditorium shall be allowed above the level of the first floor, and such first-floor openings shall have self-closing standard fire doors at each side of the wall, and openings, if any, below the stage shall each have a self-closing standard fire door, and all of the said doors shall be hung so as to be opened from either side of the wall at all times.

There shall be provided over the stage metal skylights, of an area or combined area of at least one-eighth of the area of the said stage, fitted with rolling sash and glazed with glass not exceeding ⅛-inch thick, and each pane thereof measuring not less than 300 square inches.

The rolling sash shall be fitted with brass wheels not less than 2½ inches in diameter, and latter shall roll on brass tracks extending the entire length of the sash. The portion of the tracks extending from the edge of the curb of the skylight to the end of the incline may be made of iron. These skylights shall be set on curbs, so that the lowest portion of the tracks upon which they slide shall be not less than 12 inches above the roof. The whole of which skylight shall be so constructed as to open instantly on the cutting or burning of a hempen cord, which shall be arranged to hold said skylights closed, or some other equally simple approved automatic device for opening them may be provided. Immediately underneath the glass of said skylights there shall be wire netting, but wire glass shall not be used in lieu of this requirement.

The roof over the stage shall be provided with a shaft of galvanised iron or other fireproof material approved by underwriters having jurisdiction, extending from the ceiling line up through and at least 4 feet above the roof, and have a raised cover at the top for the escape of smoke. The least inside diameter, or the least horizontal measurement, if the shaft be of other shape than circular, shall be 48 inches. At the bottom of this shaft, on a plane with the ceiling, shall be a galvanised sheet-iron door in two parts, each part separately hinged and kept closed by fusible links, so that in case of fire the doors will instantly open downwards by their own weight.

All that portion of the stage not comprised in the working of scenery, traps and other mechanical apparatus, for the presentation of a scene, usually equal to the width of the proscenium opening, shall be built of iron or steel beams filled in between with fireproof material, and all girders for the support of said beams shall be of wrought-iron or rolled steel.

The fly-galleries and the tie-galleries entire, including pin-rails, shall be constructed of iron or steel, and the floors of said galleries shall be composed of iron or steel beams, filled in with fireproof materials, and no wood boards or sleepers shall be used as covering over beams, but the said floors shall be entirely fireproof. The painters' bridge shall be constructed of iron or steel.

All stage scenery, curtains and decorations made of combustible material, and all woodwork on or about the stage, shall be painted or saturated with some non-combustible material, or otherwise rendered non-flammable. And the finishing coats of paint applied to all woodwork throughout the entire building shall be of such kind as will resist fire to the satisfaction of the underwriters having jurisdiction.

The roof over the auditorium and the entire main floor of the auditorium and vestibule, also the entire superstructure over the entrance, lobby and corridors, and all galleries and supports for the same in the auditorium, shall be constructed of iron or steel and fireproof materials, not excluding the use of wood floor boards and necessary sleepers to fasten the same to, but such sleepers shall not mean timbers of support, and the space between the sleepers, excepting the portion under the stepping in the galleries, which shall be properly fire-stopped, shall be solidly filled with incombustible material up to the under side of the floor boards.

Actors' dressing-rooms shall not be placed on the stage, under the stage, over the stage, on the fly-galleries, nor under the auditorium, but shall be placed in a separate section provided for that purpose. The walls separating said section containing the actors' dressing-rooms from the stage shall not be less than 12 inches in thickness, and the openings therefrom to stage shall be protected with standard self-closing firedoors. The partitions dividing the dressing-rooms, together with the partitions of every passage-way from the same to the stage, and all other partitions on or about the sides of the stage, or fireproof portion thereof, shall be constructed of fireproof material not less than 4 inches in thickness, approved by the Department of Buildings. All doors in any of said portions shall be standard firedoors.

Standpipes of not less than 4 inches in diameter shall be provided with hose connections as follows:—One on each side of the auditorium in each tier, one on each side of the stage in each tier, one within 10 feet of the door of the property-room, one within 10 feet of the door of the carpenter's shop and scenery storage-room. All of such standpipes and hose connections shall be kept clear of obstructions. Said standpipes shall receive their supply of water from a gravity tank located over stage roof, bottom of tank at least 12 feet above highest point of roof and of not less than 5,000 gallons capacity, and in addition at least one of the following sources:—(*a*) Approved steel pressure tank of not less than 5,000 gallons total capacity, located on stage roof or not lower than gridiron floor; (*b*) automatic fire pump of not less than 500 gallons capacity per minute; (*c*) from city mains where pressure is not less than 25 lbs. per square inch at level of highest hose outlet. Pipes shall be fitted with approved straightway composition gate valves at hose outlets, and the thread of all connections shall be uniform with that in use by local fire department.

A sufficient quantity of approved cotton rubber-lined hose and linen hose not less than 2½ inches in diameter, in 50-feet lengths, but not less than 50 feet in total length, shall be kept attached to each hose connection in the stage portion and auditorium respectively. Hose shall be fitted with washers and equipped with couplings and nozzles, the thread of which shall be uniform with that in use by the local fire department.

A system of automatic sprinklers approved by the underwriters having jurisdiction shall be installed throughout the entire stage section of the theatre located in the rear of the proscenium wall; this to include under roof, under gridiron, under galleries, under the stage, in all dressing-rooms, in all workshops, property and all other rooms and passageways.

There shall be an independent water supply to the sprinklers, which may consist of a gravity tank not less than 10,000 gallons capacity, and elevated not less than 25 feet above the highest sprinkler, and, in addition, at least one of the following sources:—(*a*) Automatic fire-pumps of at least 500 gallons capacity; (*b*) approved steel pressure tank of not less than 7,500 gallons capacity, located not lower than the highest line of sprinklers; (*c*) direct supply from city water mains where the pressure is sufficient to maintain not less than 25 lbs. at highest line of sprinklers when same are in operation. In addition to one or more of the above-mentioned supplies, there shall be a Siamese steamer connection placed on the outside of the building at each street front, with suitable iron plate with raised letters securely attached to the wall near steamer connection, reading, "Automatic sprinklers on stage." The location and spacing of sprinkler heads and the schedule of pipe sizes conform to the standard recommended by the National Board of Fire Underwriters.

Gas mains and electric-light wires supplying the building shall have three independent connections as follows:—One for the stage, one for the auditorium, excepting the exit lights therein, and the third for the halls, corridors, lobbies, exit lights, including the exit lights in the auditorium and such other portions of the building used by the audience outside of the auditorium proper. All gas and electric lights in the halls, corridors, lobbies and other portions of the building used by the audience, with the exception of the auditorium proper, but including the exit lights therein, shall be controlled by two separate switches or valves, one to be located in the lobby and the other to be so located as to be operated from the outside of the building. Provision shall be made for shutting off all gas at a point outside of the building. Interior gaslights must be lighted by electricity or other suitable appliances to be approved by the underwriters having jurisdiction.

GENERAL.

The Second Competition for the Hove Library has resulted in the recommendation by Mr. Belcher, A.R.A., of the following designs, viz.:—1st, Messrs. Percy Robinson & W. Alban Jones, 53 Albion Street, Leeds; 2nd, Messrs. A. J. Hardwick & Sydney E. Castle, Kingston-on-Thames; 3rd, Mr. Lionel U. Grace, 30 John Street, Bedford Row, London. The library committee have approved of the recommendations, subject to the tender for the first design not exceeding 9,333*l.*

Mr. Philip E. Pilditch, architect, of Messrs. Pilditch, Chadwick & Co., has been presented by Unionists of the Western or St. Ives Division of Cornwall, at Penzance, with a massive copper shield, worked emblematically of Cornish industries, "in recognition of his gallant and honourable fight at the general election of 1906." The *repoussé* shield was produced at the Newlyn industrial art school.

The Ayr Town Council have agreed to grant an honorarium of 200*l.* to Mr. John Young, burgh surveyor, for work done in connection with the extension of the Corporation tramways to Burns's monument.

The Following Appointments have been made:—To be director of the National Gallery, Sir Charles Holroyd; to be keeper of the National Gallery, British Art (the Tate Gallery), Mr. D. S. MacColl.

M. Denys Puech, the sculptor, has given 40,000 francs towards the erection of a gallery in the Musée of Rodez for the exhibition of works by the artists of the province.

The Education Committee of the York City Council on Monday reported as follows in reference to the restoration of pictures in the Art Gallery:—"The two large pictures supposed to be 'Old Masters' are serviceable as revealing in their disintegration the processes which go to the 'manufacture' of an 'Old Master.' There are other 'Old Masters' which add nothing to the art of the gallery."

The Heritors of Haddington parish, N.B., have agreed to the transference of the ruined portion of the parish church ("Lamp of Lothian") to H.M. Board of Works on specified terms. The ruined portion, which will be transferred to the Board of Works, is the original church of St. Mary, and forms the chancel of the whole building as it now stands. It is a picturesque ruin and contains the grave of Jane Welsh Carlyle, with the burial vault of the Lauderdales. It is expected that the Board of Works will shortly carry out needed repairs on the ruin.

Mr. Darnton Hutton, M.I.C.E., of 14 Cumberland Terrace, Regent's Park, died on May 11, leaving property valued at 96,682*l.* gross and 96,375*l.* net. He gave 100*l.* to the Benevolent Fund of the Institute of Civil Engineers.

Mr. George Low, of 12 Upper Park Road, Haverstock Hill, N.W., and 10 Basinghall Street, E.C., architect and surveyor, left property valued at 16,020*l.*

An Exhibition of paintings of Egyptian temples, including the new discoveries at Deir-el-Bahri and other places on the Nile, by Mr. Frederick F. Ogilvie, has been opened at the Modern Gallery, 61 New Bond Street, W.

M. Charles Hoffbauer has been awarded the Prix National of 400*l.* for his painting *Triomphe d'un Condottière*, now in the Salon.

The Edinburgh Architectural Association on Saturday afternoon paid a visit to Hatton House, Kirknewton. Mr. Harold O. Tarbolton, who acted as leader, stated that the oldest record of the estate of Hatton was dated 1374. On the way to Hatton House the party visited Kirknewton churchyard and viewed the old hog-backed tomb. A visit was also paid to Ratho Church. The party was entertained to tea at Ashley, near Ratho, by Mr. Robert S. L. Hardie, one of the members of the Association.

Professor Henry Morse Stephens, of the University of California, has been instructed to compile an accurate and complete record of the San Francisco earthquake and great fire and of the relief work necessitated thereby. The Mayor of San Francisco has ordered that all the official documents be turned over to Professor Stephens, and has asked the military authorities to co-operate with him. Professor Stephens proposes to divide the history into three sections, devoted respectively to the earthquake, the fire and the relief work. The history will end with the restoration of normal conditions and the beginning of the projected rebuilding of a greater San Francisco.

The Worcestershire County Council on Monday passed a resolution declaring that as main roads were now used by many persons who contributed nothing to local taxation, and as such traffic materially increased the cost of maintaining roads, legislation should be introduced at once to relieve the owners and occupiers of land as such from bearing the entire cost of road repair. It was decided to ask all other County Councils to co-operate in this representation.

The Greenock Dean of Guild Court have passed the plans for the James Watt Memorial inaugurated by Mr. Andrew Carnegie, who contributed the bulk of the money towards the scheme. The building will be erected on the site formerly occupied by the house in which Watt was born, at the corner of William Street and Dalrymple Street. It will be of the old Scots style of architecture, and will be used partly as a museum and partly as a school of engineering.

The Ephesus Room in the British Museum is being redecorated. A rearrangement of the sculptured remains of the Diana Temple is to be made, and certain capitals and other architectural details which properly belong to the Ephesian group will be transferred from the Archaic Room.

Judge Emden declared in the Tunbridge Wells County Court on Tuesday that justice could not be rendered in important cases under such wretched conditions, and if something was not done to remedy the defects of the building he should report the matter to higher quarters.

The Governors of the Glasgow School of Art, authorised by the Scottish Education Department, have granted six maintenance bursaries of 20*l.* each, with free tuition, and seven travelling bursaries of 10*l.* each, and one of 5*l.*, competed for during the session now concluding.

The Offices of the Quantity Surveyors' Association (Incorporated) will be moved to Caxton House, Westminster, S.W., after the 24th inst.

Students of tree forms will find the post-cards issued by the *Country Press*, with descriptions by Mr. F. J. Heath, of great use. Cards with ferns and plants are also prepared.

The Edinburgh Town Council have agreed on the composition of the provisional committee in connection with the proposed Edinburgh Art School. Its composition will be as follows:—Appointed by the Board of Manufactures, 3; by the Royal Scottish Academy, 3—a painter, an architect and a sculptor; by the Heriot-Watt College, 2; by the School Board, 1; by the Edinburgh Town Council, 10, including the Lord Provost, *ex officio*—total, 19.

The Town Hall and Markets Committee of the Salford Town Council on Tuesday considered in private a report on the subject of town hall accommodation prepared by the special sub-committee. This body report that it is desirable to build a new town hall, as it is unwise to extend the present building. They report that a new town hall, similar in size and character to the technical institute, could be built within a cost of 70,000*l.*

The Northern Architectural Association have decided, in order to enable the President and others to attend the annual excursion, to defer the visit to Beverley to Thursday, July 5, leaving Newcastle at 9.30 A.M. It is proposed to dine at the York station hotel in the evening, and thus allow about five hours to be spent in Beverley in visiting the two churches, &c., under the guidance, it is expected, of Mr. John Bilston.

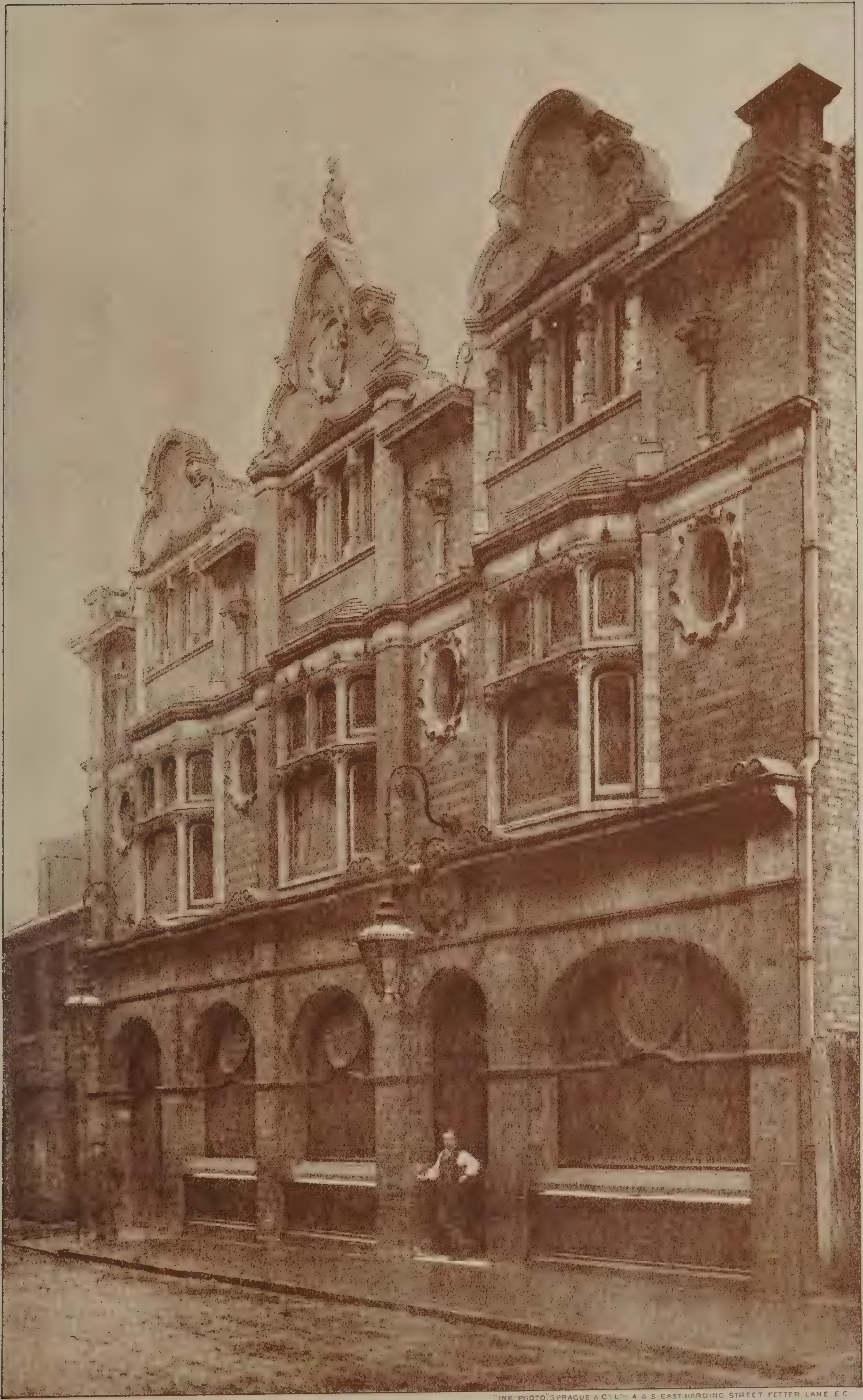
The Report dealing with the museums and galleries of Glasgow Corporation shows that during 1905 two new branch museums were opened to the public, bequests and gifts of exceptional value were received, and intimation was made of the bequest of a personal estate of a large amount, subject only to certain life-rent interests. It is stated that the innovation of Sunday opening on June 11, 1905, was effected with marked smoothness and good order. Family parties form a conspicuous and gratifying feature of the Sunday attendance. Up to the close of the year the numbers entering the institutions on Sunday were:—Kelvingrove, 103,398; Camphill, 15,225; People's Palace, 63,497; Tollcross, 38,749; and Mosesfield, from October to December, 4,487. The grand total of visitors to all the institutions throughout the year numbered almost a million and a half.

The Cardiff City Council on Tuesday resolved to borrow the sum of 20,790*l.* from the Corporation of Sheffield for the provision of a public elementary school, and to affix the common seal to an indenture of mortgage thereon.

In the June report of the Amalgamated Society of Engineers Mr. Barnes, the general secretary, congratulates members on the continuance of good trade.

Mr. R. H. Bicknell, Local Government Board inspector, held an inquiry at the Birmingham Council house on the 11th inst. respecting the application by the Tame and Rea drainage board for sanction to borrow 49,500*l.* for thirty years, for the purpose of constructing four additional bacteria beds at Minworth Greaves. The town clerk stated that similar provision had been previously made. The new beds will cover an area of 6½ acres, making a total acreage of fourteen and a half. Mr. J. D. Watson, the engineer of the Board, pointed out that at the present time they were able to deal with about a quarter of the dry weather flow by means of the beds already in existence. The new ones were to be constructed on the same principle but at a less cost. The imperative necessity for more beds was shown by the fact that they were now dealing on the land with the sewage from 450 persons per acre, which was abnormally high, as it was held that anything above 100 or 150 per acre was excessive.

The Annual Statement of the Royal Exchange Assurance is one of those documents which must give gratification to others besides the fortunate people who belong to the Corporation. Established in 1720, it has long been esteemed as a national institution. The figures relating to all departments inspire confidence. Like other British offices the Royal Exchange Assurance has lost by the San Francisco fire, but the directors do not anticipate that the sum to be paid will exceed 450,000*l.*, which can be done with ease by such a company. All the departments—life, annuity, sinking fund policies, fire, marine accident, trustee and executor—can show satisfactory returns for the year. The assets stand at 5,398,968*l.*



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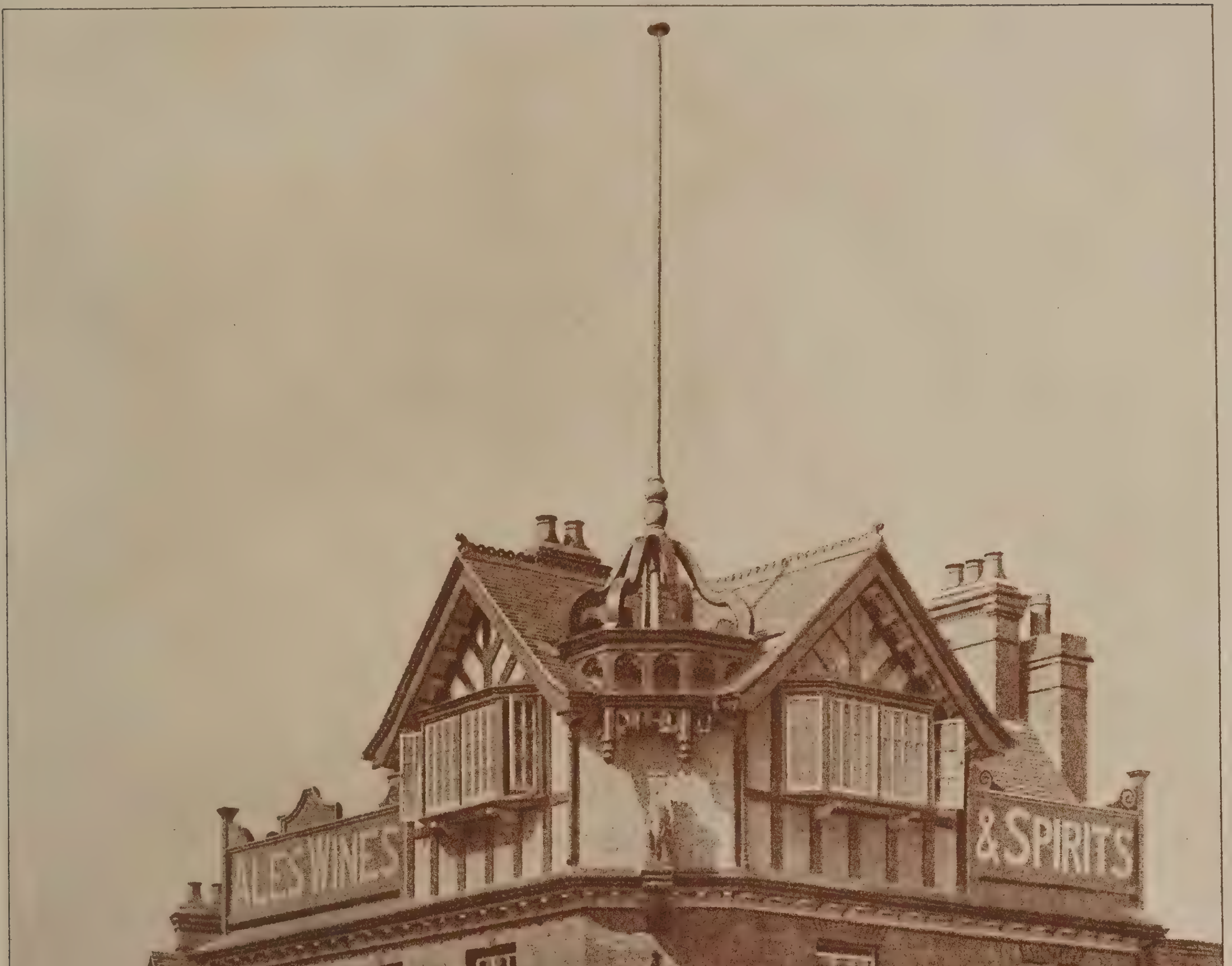
DOLPHIN INN, WALSALL.

Messrs. J. H. HICKTON and H. E. FARMER, FF.R.I.B.A., Architects

The Architect, June 15th 1906.



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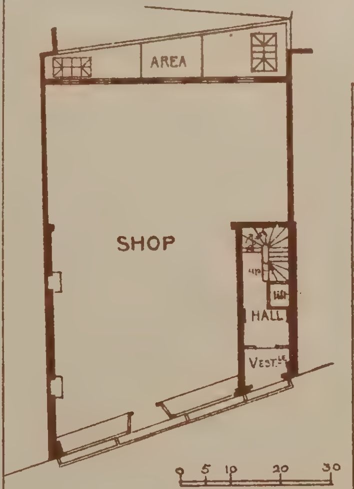
"ELEPHANT AND CASTLE," WOLVERHAMPTON.

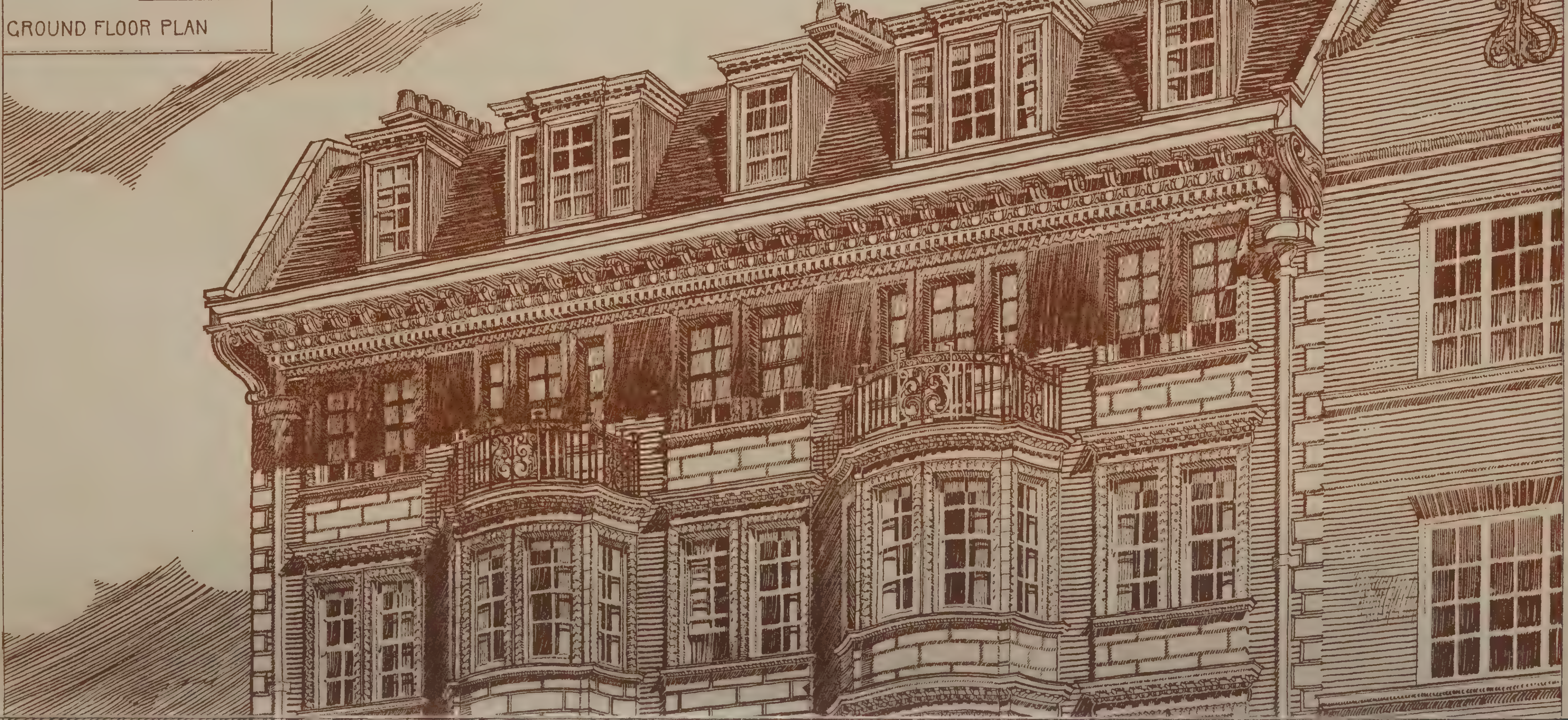
Messrs. J. H. HICKTON and H. E. FARMER, FF.R.I.B.A., Architects.

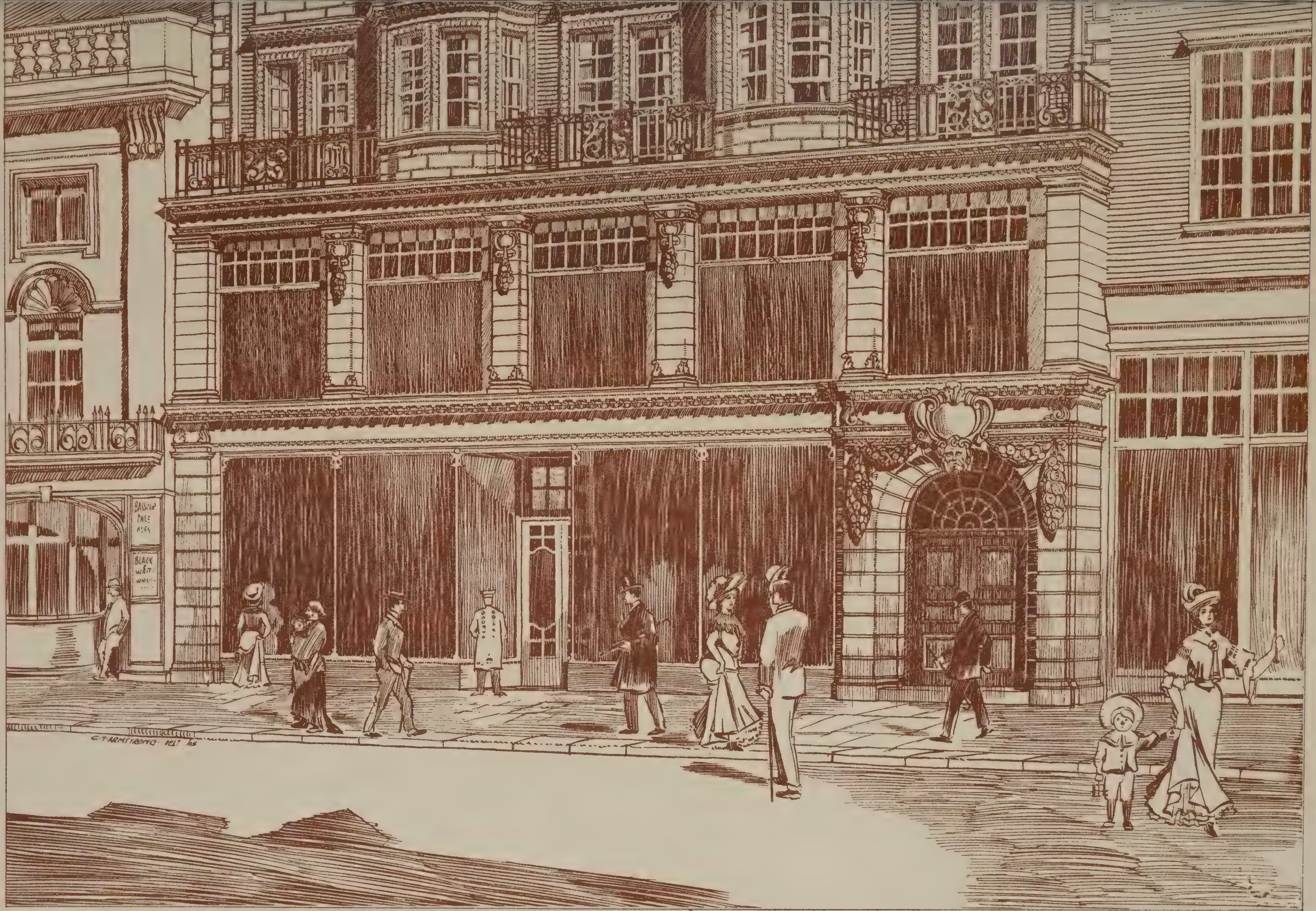
60. 62. 64. BROMPTON ROAD. S.W.

R. A. Briggs. F.R.I.B.A. Architect.



GROUND FLOOR PLAN





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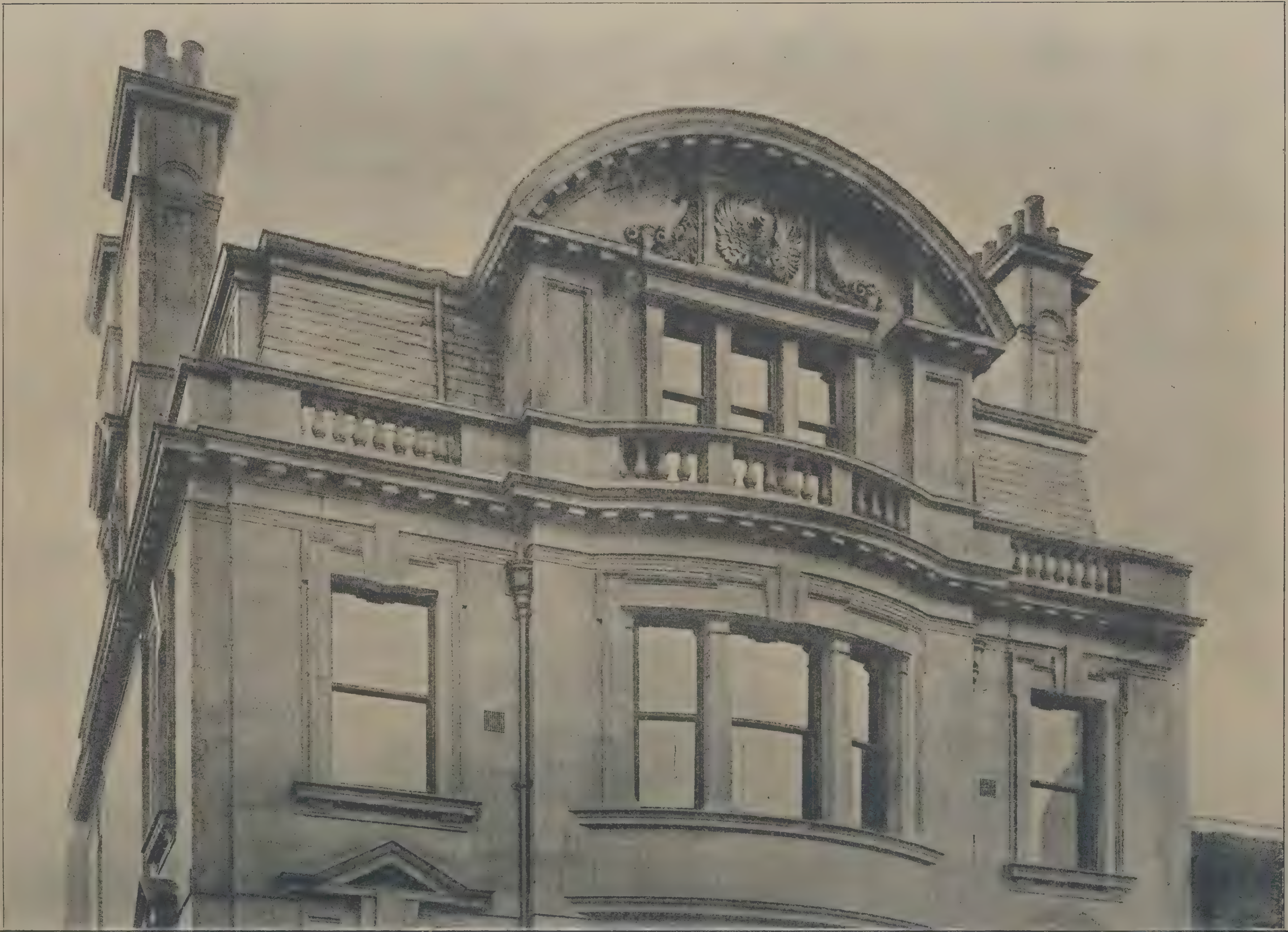
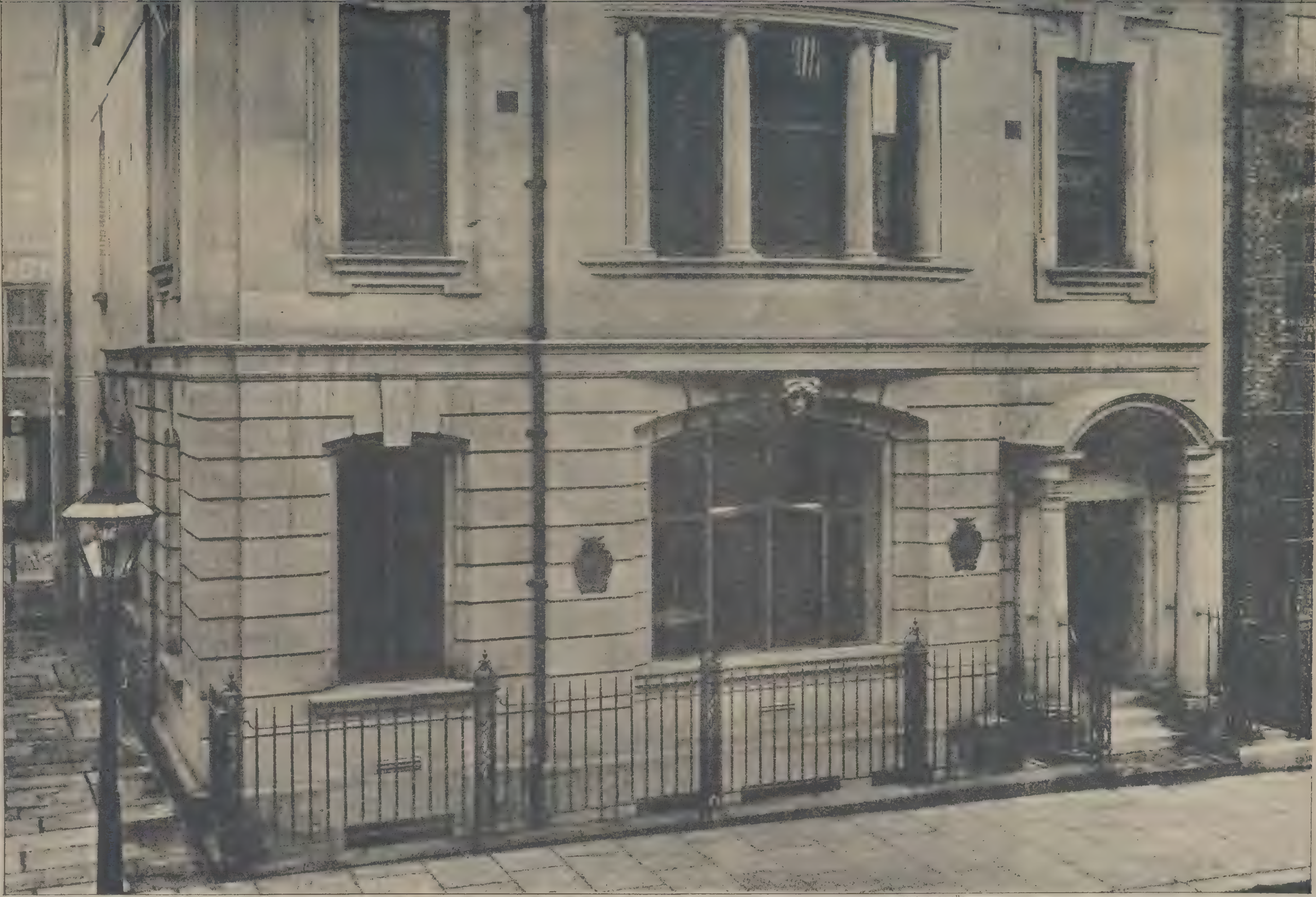
The Architect, June: 15th 1906.





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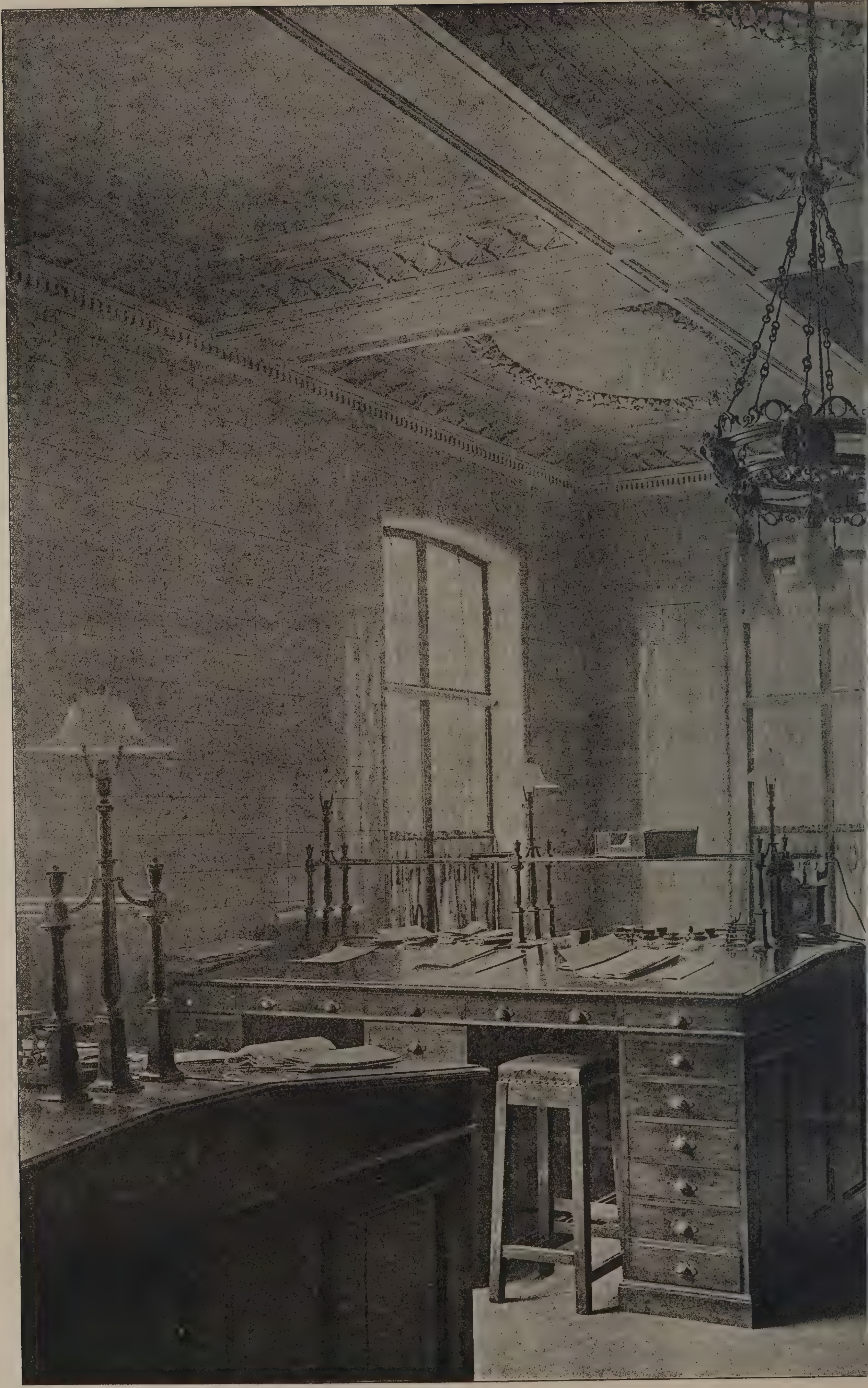
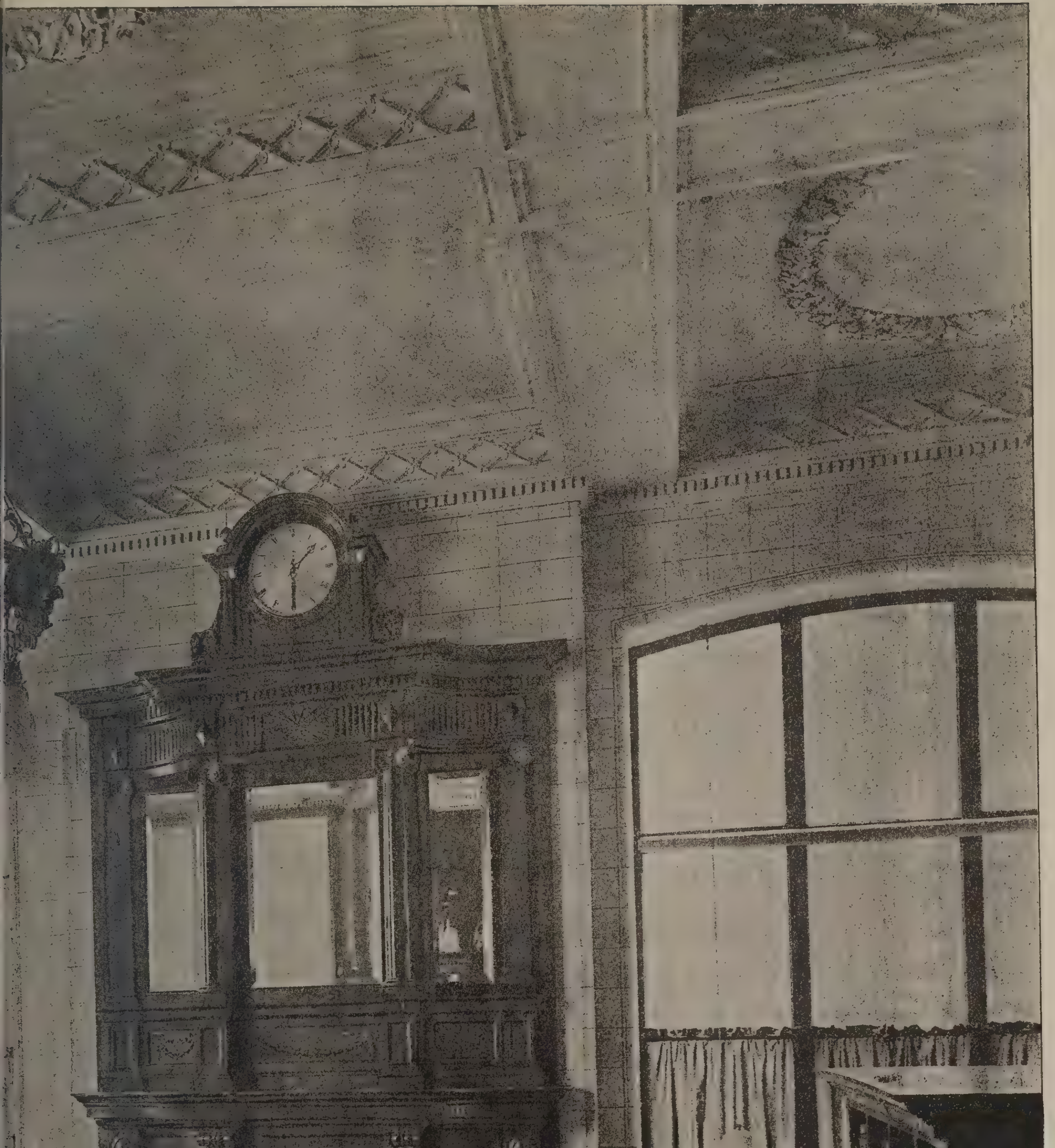
PHŒNIX INSURANCE COMPANY'S NEW OFFICES, LEEDS: VIEW OF FRONT, SOUTH PARADE.

W. H. THORP, F.R.I.B.A., Architect.



PHŒNIX INSURANCE COMPANY'S NEW OFFIC

W. H. THORP, F



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LEEDS: VIEW OF FRONT, SOUTH PARADE.

.B.A., Architect.

The Architect.

THE WEEK.

The programme for the forthcoming International Congress of Architects has been published. The proceedings will commence on July 16, when there will be a reception at the Grafton Gallery, an inaugural reception at the Guildhall, and a soirée at the Royal Academy. On Tuesday, Wednesday and Thursday mornings papers will be read at the Grafton Gallery and the Institute meeting-room. On the same days there will be visits to various buildings and also to the works of Messrs. Holloway and Messrs. Doulton. The Lord Mayor's conversazione will be held on Tuesday. On Wednesday and Friday evenings papers will be read at the Grafton Gallery and the Institute meeting-room. On Thursday evening there will be a garden party at the Botanic Society's Gardens. The farewell banquet will be held at the Hôtel Cecil on Saturday evening. There will be exhibitions of photographs of buildings by living British architects, a chronological exhibition of British architecture from 1066 to 1860, views in oils and water-colours of British architecture, specimens of British furniture and silverwork, and a selection of Viennese students' drawings. The steward-interpreters will wear colour badges to show the languages with which they are conversant.

An interesting case with respect to fees has been decided on appeal in Edinburgh. Mr. F. S. Colledge, a civil engineer, claimed 2,853*l.* 15*s.* from the Glasgow and Renfrew District Railway Company, the balance of his fees. According to the agreement entered into between the parties Mr. Colledge was to be paid a sum equal to 4 per cent. on the Parliamentary estimate of the cost of the works of the authorised lines for which plans had been prepared, including the 10 per cent. allowed for contingencies. A Parliamentary estimate has to be made out partly for the information of the committee, who have to consider whether the project is worth approval, and partly to raise the money which has to be lodged in order to prove the project to be a bona-fide one and which is a percentage of the Parliamentary estimate. The amount also includes the value of the land. In the case in question 55,108*l.* was put down for the value of the land out of a total of 183,844*l.* The company paid Mr. Colledge 4,500*l.*, but declined to pay any percentage on the outlay for land and buildings. When the case was first heard the Judge approved of the action of the company. Mr. Colledge appealed. But the Court of Session decided against him, with costs. Their Lordships held that "works" was to be taken as signifying works which were constructed, and did not comprise the outlay for ground on which the works were to be carried out. The case, we hope, will not be taken as a precedent, for it often happens that in building works, as well as in those known as engineering, architects and engineers occupy much time in the arrangements for acquiring ground. A valuer or estate agent is not always employed, and it would not be equitable if work which involves so much responsibility should be always performed gratuitously.

Besides the river Liffey, which forms a sort of diameter for Dublin, the city has also outside its boundaries a river known as the Dodder. In summer the bed is often dry, but in winter it presents the spectacle of "spates" on a small scale. To carry the principal road from Kingstown to Dublin across the Dodder must have been considered a work of difficulty, for the bridge was not only called after the engineer, Mr. Ball, but the village which grew up in the neighbourhood became known as Ball's Bridge. Of late years it has increased in importance owing to the exhibitions of the Dublin Society which are held there, and the place has also been selected for the international exhibition of next year. The bridge which served for the traffic sixty or seventy years ago is altogether unfitted for tramways, which now run over it, and for a large number of vehicles. The local District Council and the tramways company therefore came to the conclusion that the bridge should be widened. The company apparently supposed that the abutments would serve and all that would be required could be done for a sum not exceeding 700*l.* They agreed to pay the amount certified by the engineer. When the bill came in it amounted to 8,413*l.* 15*s.* The company refused to pay the sum, alleging that the District Council had practically rebuilt the existing bridge and replaced it by a virtually new structure, constructed according to elaborate and extravagant designs and estimates, which were not in keeping with the design and character of the said existing bridge and not necessary for its proper widening or improvement. The grounds on which the tramway company relied were that the surveyor to the Council had stated that the work could be done at a cost of from 600*l.* to 800*l.*, but under the circumstances they offered to pay 3,000*l.* After further consideration between the parties it was agreed that the plaintiffs should receive 5,500*l.* with costs, or, in other words, to split the difference between them. The case should be taken as a warning to those who are willing to leave the carrying out of works to other parties without having a definite agreement as to the outlay. An excess of confidence in the honour of others often leads to unsatisfactory results.

Although the Médaille d'honneur is the most important of the Salon prizes the Prix du Salon is the most substantial, for it means a sum of 10,000 francs, or 400*l.* It is therefore much sought after by young artists, or rather by painters and sculptors, for an architect rarely has a chance of a majority of votes. This year the contest was between M. Charles Hoffbauer, the painter of the *Triomphe d'un Condottiere*, and M. Alix Marquet, the sculptor of the *Fin de Labeur*. The former was successful. On the same occasion the votes for the nine *bourses de voyage*, each of the value of 4,000 francs, or 160*l.*, were taken. The two fortunate architects were M. Ventre, who was the author of a series of drawings for the restoration of the churches of Chars and Triel, and M. Bans, who designed an Æro Club. The painters who gained *bourses* were MM. Dilly, Jacquier and Caucaret. The sculptors were MM. Cornu, Laffeur and Lhoest. For lithography and etching M. Toupey was the winner.

The Congress of the Royal Sanitary Institute is to be held in Bristol from July 9 to July 14, under the presidency of Sir Edward Fry. Three section meetings of two days each will be held. Engineering and architecture will be presided over by Mr. Edwin T. Hall. The special conference relating to engineers and surveyors to county and other sanitary authorities will have Mr. H. Percy Boulnois as chairman. Among the subjects which have been arranged for discussion are :—"The Construction of Isolated Homes for the Aged Poor *versus* the Workhouse," to be introduced by Mr. A. Saxon Snell, F.R.I.B.A.; "The Influence of Dust on Health," to be introduced by Dr. Phillip Boobbyer; "The Rational Extension of Modern Cities," to be introduced by Mr. Arthur Richardson, M.P.; and "Rural Road Construction and Maintenance," to be introduced by Mr. R. Phillips, M.I.C.E. There will be visits to local places of interest, garden parties in the grounds of Goldney House, Clifton, and elsewhere, and excursions to Cheddar, Wells, Blagdon, Wye Valley, Chepstow, Tintern, Bath, Weston-super-Mare, Minehead, Lynton, Ilfracombe, &c

JOHN NASH AND REGENT STREET.

It is the fate of architects to have their works criticised without much consideration for the circumstances under which they were executed. It might be imagined that an architect is entrusted with some magic wand or spell which enables him to summon the services of able assistants and to command the conveyance of the costliest materials from distant regions. In criticising buildings it seems to be forgotten that money is required; and that in the majority of cases, whether the buildings are public or private, money is only niggardly doled out. No modern architect was subjected to that kind of scrutiny like John Nash. We should remember that in 1813, when the Act was obtained for laying out Regent Street, the majority of people in England, and especially the trading class, believed the country was about to be ruined. The long war with France, which comprised the subsidising of that country's continental enemies, had impoverished the Treasury. Taxation was heavy, and the price of food suggested famine in the land. At such a time was it to be expected that the speculators in sites in Regent Street would erect premises with materials that could endure for centuries? Yet the wits of the time criticised Nash as if he wielded the despotic power of a Roman emperor:—

Augustus at Rome was for building renown'd,
And of marble he left what of brick he had found;
But is not our Nash, too, a very great master?
He finds us all brick and he leaves us all plaster.

At the present time it must be allowed that the attacks on the memory of John Nash are still expressed with equal rancour if with less wit. It is, however, a remarkable fact that the architect was no more in favour of showy but defective building than many other men who are compelled to give their services to clients who are economical to excess. There is a report of his, dated 1811, relating to buildings on Crown property in the district lying north of the New Road, and therefore prior to the time when the works of Regent Street were undertaken. In the course of it he says:—

> It is the interest of those concerned in such buildings that they should be of as little cost as possible, preserving an attractive exterior, which Parker's stucco, coloured bricks and balconies accomplish; and a fashionable arrangement of rooms on the principal floors, embellished by the paperhanger, and a few flimsy marble chimney-pieces are the attractions of the interior. These are sufficient allurements to the public, and insure the sale of the houses, which is the ultimate object of the builders, and to this finery everything out of sight is sacrificed, or is no further an object of attention than that no defects in the constructive and substantial parts shall make their appearance whilst the houses are on sale; and it is to be feared, for want of these essentials which constitute the strength and permanency of houses, a very few years will exhibit cracked walls, swagged floors, bulged fronts, crooked roofs, leaky gutters, inadequate drains and other ills of an originally bad constitution; and it is quite certain, without a renovation equal to rebuilding, that all those houses, long, very long, before the expiration of the leases, will cease to exist, and the reversionary estate the proprietors look for will never be realised, as it is not till the end of the builder's term that the proprietor of the fee will be entitled to the additional ground rents laid out by the builder.

These words are an anticipation of the "jerry-building" of a later time. But it is not to be supposed that an architect who was so well aware of the consequences of defective work would advocate the adoption of similar treatment in a street that was expected to be the most important of the Metropolis. James Elmes tells us that the sites in Regent Street were offered under severe restrictions as to external design and quality of materials. Nor did Nash compel any of the lessees to employ him as their architect, although he easily could have done so. In the agreements he merely reserved to the Commissioners and himself the right of rejecting plans out of keeping with the style of the street. Sir John Soane, C. R. Cockerell, Repton, Decimus Burton, Abraham and the Smirkes were also enabled to prepare designs for buildings. It is therefore an error to assume that John Nash monopolised everything. He did not, of course, decline to prepare designs, and some of the best buildings can be credited to him. Like all architects who become responsible for extensive works, he was eager to see Regent Street completed. Accordingly he resolved to act as builder as well as architect. Nevertheless, he did not seek to be favoured with better terms than other builders, and it was understood at the time that he lost money in the speculation. If the buildings are showy, but unsubstantial, the true cause is to be found in the financial conditions under which the work was carried out.

Dr. Johnson considered the great defect of London to be its excessive largeness. But in his time it was overcrowded. It must have been present to the minds of the authorities that by laying out a new thoroughfare through St. James's Market to Castle Street, where the Quadrant—a square with a public building in the centre—was to be formed, and then along Swallow Street to Oxford Street and northwards to Marylebone Park, many valuable building sites would be created. It should also be remembered that George III. at one time was favourable to the erection of a palace in the park, and the new street would be an almost straight line from the residence of the king to that of his son in Carlton House. In fact, building had commenced in the neighbourhood of the park before the plans of the new thoroughfare were approved. It is creditable to Nash that in none of his plans did he propose to do more than to erect a crescent with fine buildings outside the park. The only buildings he suggested for the park were a royal palace and a church. Some of the rival official surveyors proposed to treat the whole park as a building estate which should be laid out with roads lined by mansions of a costly kind. If they had succeeded London would now be deprived of one of its most prized open spaces. It must be said that the early building experiments in the neighbourhood of the park were not successful, owing to the difficulty of the people who took leases finding capitalists who were prepared to finance them.

We do not claim for John Nash a place among the great English architects. He was not inspired when treating detached building. The defects of Buckingham Palace are by some charged to Edward Blore, who departed from the designs of Nash. The Pavilion at Brighton could hardly be taken seriously as a work of architecture, or judged by its appearance at the present day. The Prince Regent was pleased with it, and the designer was inspired by no higher aim. He enlarged the Opera House which then existed, and received commissions for many large mansions. He could be considered as a fortunate man, but it must be acknowledged he knew how to take advantage of opportunities. He was a native of Wales, though little is known about his early life. He became a pupil of Sir Robert Taylor, where he had for his fellows Samuel Pepys Cockerell, the father of C. R. Cockerell, and Leach, who afterwards was Master of the Rolls. He early showed his courage by preparing drawings for which the seniors in the office considered the time was too limited. Afterwards, when he attained success, he was one of the kindest of masters. He bought East Cowes Castle, in the Isle of Wight, as a country house, and he used to allow his pupils and assistants to stay with him. The first of the Pugins was engaged by him as a draughtsman, and as the refugee was something of an archæologist, Nash left the Gothic department to him. As castellated mansions were in fashion, the arrangement was wise. His architectural work was of a kind which suggested his theatrical aspirations. He erected a theatre for himself in Wales, and he used to perform on the stage with some of his friends. He had opportunities for acquiring wealth. As one of the architects of the Board of Works he received an annual fee of 500*l.*, with a commission of 3 per cent., which was in 1826 increased to 5 per cent., on the expenditure. When he died in 1835 it was understood that his property was not large. However, it is occasionally stated that he was very wealthy. John Nash was certainly a kindly, honest man, and it may be doubted whether under similar circumstances another architect would have been more successful in carrying out the Regent Street commission at a time when only limited funds were available for building speculations.

JEAN BAPTISTE CARPEAUX.

CARPEAUX, the sculptor, died in 1875, and during the thirty years which have elapsed it has never been difficult to excite a controversy respecting himself and his works. As a man it is easy to allege that he was a toady of the Imperial Court, and a story used to be told about his lying in wait in railway stations for the Emperor in order to obtain a commission for his big relief of the liberation of Abd-el-Kader. His works were subjected to severe criticism by some, while other critics considered he was the foremost sculptor of the age. At the present time the discussion is being renewed. His group of *Ugolino* has been removed from the gardens of the Tuileries, and his *Dance* before the Opera House is likely to meet a similar fate. If the two works are placed under a roof it is for their preservation. But unkind people assert their withdrawal is owing to their unfitness to appear in public places.

Carpeaux should be regarded as a sign of his time. The dissatisfaction which is always surging in the French mind because the world was not made to suit them alone extended to art. Young and ardent spirits considered they were acting as hypocrites in representing human beings according to academical rules. No doubt the dissatisfaction existed at an earlier time. The great relief of the departure of the conscripts by Rude is a startling contrast to the three other groups on the piers of the triumphal arch. It is vivid, while they are essentially sculpturesque according to the old canons. But Rude hesitated to represent his warriors as Frenchmen living at the close of the eighteenth century. They are not such revolutionaries as Charlet and Raffet immortalised. Rude's work was a compromise, and some of the heads might have been suggested by Greek gods and heroes rather than by ordinary models. Carpeaux was a pupil of Rude, and we see the same spirit of compromise in the famous group of *The Dance*, especially if we compare the figures with the companion groups at the Opera House by Guillaume, Jouffroy and Perraud. The latter sculptors realised the function of their groups, which was to decorate the piers of the building, and the figures were therefore as expressive of immobility as suited the subjects. But Carpeaux was one of the artists who would not recognise the ancient office of sculpture, and he endeavoured to represent motion that is almost delirious. The scene may recall the students' halls of Paris, but the Bacchanals belong to a different age.

It is curious that so remarkable an innovator went through the same course of training as the sculptors whose works form such a contrast with his group. Carpeaux was born at Valenciennes in 1827. His father was a mason, and the son had the physical aspect of a man who lived by hard work as a stonecutter. He was seventeen when he entered the Ecole des Beaux-Arts, and not until ten years had elapsed was he able to win the Prix de Rome. Of course, the subject was classic, *Hector carrying his Son.* Many censors have since 1854 condemned the practice of sending young artists to Rome, because they believe that the training in the Villa Médicis only renders them still more academical. But the true artist will always find in Rome his special nourishment. Carpeaux considered that when he left Paris his work was of the cast-iron class. It was in Rome he discovered contours and flesh. His application was unceasing, and as soon as he went to the school he began modelling his *Petit Pêcheur à la Coquille*, a boy with a shell to his ear, which has been a favourite subject with poets as well as painters and sculptors. The *Figaro* has been able to gratify the curiosity about Carpeaux by publishing a series of letters to a young friend which the sculptor wrote from Rome. Although he was surrounded by classic masterpieces it is remarkable that Carpeaux did not forget his old master, and he begs that a cast of the head of the *Petit Pêcheur* by Rude, which is now in the Louvre, should be sent to him without delay. As his own work was nearly complete he had no desire to copy it. But he was anxious to be able to compare it with a more real standard than any ancient work. In those days Carpeaux wished to remain in Rome during his life, instead of for the brief period allowed by the term of his prize. For, as he said, the old capital offered more *motifs* for inspiration than were to be found in France. He was beginning to understand why Poussin preferred Rome to Paris.

The modelling of the statue was to an able man like Carpeaux the easiest part of the undertaking. The other prizemen praised it as a masterpiece, and Hébert, who afterwards became director of the school, told him it was sufficiently satisfactory to be placed beside Rude's figure. But the praise of artists did not overcome the financial obstacles. Carpeaux naturally wished to see his statue in a more enduring material than clay. For so excellent a production the French Government could not refuse to provide the necessary block of marble. But in that case not more than 2,000 frs. would be paid for the sculptor's work. Carpeaux had no objection to express his ideas in marble. But he considered bronze was better adapted to the subject, and that would be very expensive. He obtained somehow sufficient support to have an experiment made. But the moulders were careless and they charged him 265 francs for casts of the figures in wax which were not worth two sous. At one time he was desponding and believed his model was defective. Then somebody encouraged him and he resolved to send the model to Paris. He knew he could count on the kindness of the late M. Emile Levy, the painter, whose influence would be sufficiently strong to prevail with the founders and to obtain from them a satisfactory copy.

Having passed through all the impediments which beset his first important work, Carpeaux immediately set about another which was to be of a more ambitious character. This was to create a group that would rival the *Laocoon*, and was to represent Dante's story of the unfortunate Count Ugolino and his sons. So many attempts had been made in the old days of high art to represent that terrible story—Sir Joshua Reynolds's being one of them—it might be imagined that Carpeaux could easily find a more satisfactory subject. But, as we have said, he was a representative man, and like succeeding realists he was ambitious to grapple with the terrors to which humanity is liable. A famished man contemplating cannibalism was as tragic a motive as serpents devouring a Trojan priest. He worked at it with such fury as to exhaust his strength. When the group was completed Schnetz, the painter, who was director of the school, informed him that a group with three figures was contrary to the rules and regulations, and could not be approved. He advised Carpeaux to break up the group, cast aside the two sons, and to turn the father into a *Saint Jerome.* The supposed adaptability of his work was a compliment to the sculptor. We must not condemn Schnetz. He was an official, and was bound by the customs of the Villa Médicis. Afterwards, when the group in clay found its way to Paris, and when the Academicians reported against its purchase and reproduction by the State, Schnetz became the champion of the sculptor, whom he declared to be a great artist. And it was by his influence the decision was set aside, and that the *Ugolino* in bronze became an ornament of the Tuileries gardens.

Meanwhile CARPEAUX was compelled to go through a period of anxiety. At one time he had fears that he must die of hunger if he continued faithful to sculpture. He fell into ill-health, and not only his hopes but his ideas appeared to vanish from day to day. He began to lose confidence in himself, and although he abominated idleness he found he was unable to work, and came to think that nature had not made him an artist. But a gleam of success was happily sufficient to dispel all his apprehensions. His *Pêcheur* aroused so much interest in Paris that visitors to Rome deemed it a privilege to be allowed to visit the studio of one of the rising artists of France.

Among the visitors the most influential was the Count de NIEUWERKERKE. He was the successor of Count D'ORSAY, and could be considered as the chief adviser of the Imperial Court in all matters of art. He was struck with the power shown in the *Ugolino*, and he obtained a commission for CARPEAUX to execute a bust of the Princess MATHILDE. Through her influence he was nominated to the Legion of Honour. But all that the *Ugolino* and the bust could gain from the Academicians, who then controlled the Salon, was a second-class medal. He afterwards was employed on the decoration of the Pavillon de Flore, and, inspired by the title, he produced a group in high relief of the goddess and children surrounded by flowers. He received other public commissions, and if the Empire could have lasted he was likely to be the foremost of the official sculptors. The fall of the Government compelled him to find in London a refuge from the Communists. Although he was, if possible, more competent to produce busts than large figures, he was unable to secure English patronage. He ascribed the absence of success to the jealousy of English artists. But it would not have been difficult for him to discover in 1871 that sculpture was not much favoured among us. In 1873 he modelled a bust of the ex-Emperor at Chislehurst. He did not live long after his return to France, for he died in 1875. Time has not been friendly towards him, and the position he is to hold in the history of art has not been determined by his countrymen. But, as one of the first men who tried to impart some of the qualities of painting to figures in bronze and marble, he is entitled to be respectfully remembered.

ARCHÆOLOGY OF THE ANDOVER DISTRICT.

THE members of the Hampshire Field Club and Archæological Society had a very pleasant and interesting meeting in the Andover district last week, says the *Hampshire Advertiser*. The programme was arranged by Mr. C. J. Phillips, hon. local secretary for Andover, and Mr. W. Dale, the hon. general secretary. After assembling at Andover Junction railway station, they went first to Thruxton, passing *en route* the site of the Roman villa discovered in 1823, and further dealt with in 1899 by the Rev. G. Engleheart, F.S.A. The discovery included a five-coloured mosaic pavement, circa A.D. 300, with the inscription "Quintus Natalius Natalinus et Bodeni," and a figure of Bacchus, cup in hand, riding on a panther. This laid for many years after in the field where it was found, and in 1899 was transferred to the British Museum. At Thruxton Church Mr. W. Dale read a short paper, in which he said:—

It is now seventeen years since we, as a club, visited this interesting church. Its architecture I leave in other hands, and merely remind you that Thruxton is not mentioned in Domesday, but was probably included in the great manor of Anne. The entry concerning it is "Gozelin de Cormelies holds Anne of the king, and Saxi held it allodially of King Edward as a manor." The Rev. de Foe Baker, who met us here in 1889, ascribed the rude effigy at the west end of the church to Sir John de Cormaille, a baron who held the manor in Norman times. From the Cormailles were descended the Lisles, and the most interesting monument in the church is a fine fifteenth-century brass to Sir John Lisle, who was Governor of Jersey, and who died in 1407. The brass was made in 1420, and is the earliest representation of complete plate armour; the spurs are particularly worthy of notice. Mr. de Foe Baker informed us that the actual armour was long in existence, and was sold in the village for old iron. I am inclined to think this is a story based in the preservation of the helm and vizor (formerly in the church, but not now to be seen), which may be only undertaker's furniture. From the Lisles of Thruxton was descended the John Lisle who was one of the judges of Charles I., and one of Cromwell's lords, the husband of Alice Lisle, whose story has engaged our attention more than once at Ellingham and Moyle's Court. The recumbent monuments close by are the effigies of another Sir John Lisle and his wife, Mary Courtenay. He lived in the early part of the sixteenth century, and was a herald at the Field of the Cloth of Gold. They are considered to be portraits, and were the work of an Italian artist brought over by Lord Sandes. The material is hard chalk. Another important family which held the manor of Thruxton were the Philpotts. The rector, the Rev. J. Collin, very kindly sent me an extract from the Royalist Composition papers, series II. V. v. 169, giving particulars of a fine imposed upon Henry Philpott of Thruxton—his delinquency being that he was in arms against Parliament. Some of us will probably recollect seeing here in 1889 a wooden effigy of Lady Elizabeth Philpott, who lived at the close of the sixteenth century, and we hope to see it again—monumental effigies of wood are very rare. This is one of three we have in this county—one at Gatcombe and another at Pamber. The face is unfortunately mutilated, but the rest of the effigy is in fair preservation; the wooden block on which the head rests is carved in imitation of lacework.

Passing round the church, which has a Transition Norman tower, but is mainly Decorated and Perpendicular, the fine Lisle brass referred to was inspected with great interest. It is in excellent preservation and well taken care of, which can hardly be said of the recumbent Lisle effigies carved in the native chalk. The right foot of the baron is off and lying on the tomb, and there are numerous other bits close by, indicating that some steps are necessary if destruction is to be averted. The rare wooden effigy is not in the church, but has been removed into a barn at the rear of the rectory garden, where apparently it is left to decay as it will. Mr. Dale said the date of it was about the closing years of Elizabeth or the early years of James I. As he stated at the annual meeting of the club at Winchester, it was time it was taken more care of. When he last saw it it was stacked round with firewood, but that had been removed. Mr. Doran Webb, architect to the Dean and Chapter of Salisbury, took great interest in the figure, and wrote to the Philpott family about it, the reply being they did not want to have anything to do with it. In 1899 it was taken out of the tower of the church and laid upon the lawn, and afterwards carried into the barn.

The Rev. A. G. Davis asked if anything was known of Lady Elizabeth's history, and Mr. Dale replied that the Philpotts were descended from the Lisles, but who Lady Elizabeth was before her marriage he did not know. If the rector refused to have it back in the church it should be placed in a museum.

The Rev. T. Thistle, of Eling, moved that the hon. secretary be instructed to write to the Archdeacon of Winchester, who was responsible, he said, for the preservation of the churches and the furniture therein, calling attention to the fact that this effigy, which used to be in the church, had been removed without a faculty, and was in danger of destruction.

The Rev. R. White, of Titchfield, seconded the proposition, which was agreed to.

Mr. Dale said he was sorry the vicar, who had promised to receive the club, was not present, but his daughter had informed him that he had been called away. They were much obliged to the rev. gentleman for opening the church to them.

The party then proceeded to Appleshaw, halting about a mile from the village and entering a field, where they were met by Mr. Cecil Edwards, lord of the manor, who by the aid of a map described the locality of the remarkable Roman remains discovered there in 1897, and also showed photographs of some of the pewter vessels and other relics that were found and are now in the British Museum.

Mr. Dale said the locality was one exceptionally rich in

Roman remains. Traces of Roman occupation had been found at Fyfield, Kimpton, Appleshaw, Clanville, Rambridge, Thruxton, Abbotts Ann, Finkley, Tinker's Hill, Andover Down and other places, all within a comparatively small radius. They passed on entering the parish of Thruxton the site of a Roman villa or building discovered in 1823. No plan of that building exists, for at that time people were not so anxious to obtain information concerning the domestic life of the Romano-British as we are to-day. The systematic exploration of the town of Silchester begun in 1890, and now drawing to a close, was undertaken, not with the object of finding coins, brooches, pottery, &c., which look so pretty in museums, but for the purpose of trying to find out what kind of houses the Romans lived in, and their habits and pursuits. The description left of the foundations discovered at Thruxton seems to point to it being a house of a very simple type. The principal discovery was a fine mosaic pavement with part of an inscription. In the centre was a small round panel with a figure of Bacchus seated on a tiger, and various geometric devices round it. The foundations discovered in 1823 appear to have been destroyed, but the pavement was in 1899, through the exertions of the Rev. Geo. Engleheart, F.S.A., taken up, and is now on the staircase at the end of the King's library in the British Museum. It was found to have suffered very much. Part of the inscription, once visible on the border, had gone, and so had Bacchus, but what was left was of great interest. There is, or used to be, a drawing of this pavement in the Winchester Museum. It was a matter of great regret that the Rev. G. Engleheart had left this neighbourhood. In this district were two great Roman roads, and there was much still to be done, if it could be done by competent people and without the strange feeling of jealousy which is often imported into such things. If they would pardon a personal reference, it was for this reason that he advertised himself as the local secretary for Hampshire of the Society of Antiquaries—not because he was the best authority, but because he was in touch with those that were. Things of interest we often passed over for want of a proper knowledge of the subject, while often things of little worth get magnified into importance. In the year 1897 Mr. Engleheart noticed in that field fragments of roofing, stone flue tiles and bricks, and in digging a trial trench near the edge of the road he made a remarkable discovery. He came across a cement floor with a shallow pit sunk through the floor, and in the pit a set of thirty-two pewter vessels buried intentionally. The vessels were of all shapes and sizes, large flat dishes, drinking cups, bowls and small dishes, all apparently for table use. Many were ornamented with an intricate geometrical pattern, incised by a wedge-shaped punch, and emphasised by being filled in with bituminous material serving for niello. Mr. Cecil Edwards, the lord of the manor, by whose courtesy they were there to-day, had shown drawings of these vessels, which were most fully described in "Archæologia," and also photos of another portion of a villa which was discovered about 50 yards distant, consisting of a small bath-house isolated and self-contained. Although there was not much now to be seen here, he thought it was of great interest to remember that they were standing on the very spot where about 1,600 years ago Roman families lived who were not only civilised but were Christians. The pewter was of the fourth century, so were a large proportion of the coins he had seen in the Andover Museum. There was abundant evidence (in spite of Bacchus in the Thruxton pavement) that not only here, but at Silchester and other parts of Southern Britain, Christianity prevailed. One of the dishes had a fish, a well-known emblem of Christianity, upon it; but more conclusive still was the Chi Rho monogram which appeared on another dish. He had been to the British Museum to see this dish, and was interested to notice that the monogram was not put on in its making but scratched on afterwards, by the owner most probably. How much they would like to know more about these people who lived in these villas and spoke Latin, and were, above all, Christians. How much they would like to know more about the succeeding century, the fifth, when the legions were withdrawn, and when, for a period of a hundred years, we knew nothing of the history of the land we live in.

The Rev. Father Davis suggested that the illustrated paper by Mr. Engleheart, published by the Society of Antiquaries, might be included in the club Proceedings, and Mr. Dale said he would mention the point to Professor Hearnshaw, the editor. Mr. Edwards said he had also come across in the neighbourhood remains of ancient British underground dwellings, but these were hardly traceable now.

The party were highly gratified by Mr. Edwards's courtesy and the interest he had displayed in their visit, and then proceeded on to Appleshaw, where luncheon was partaken of, and then on to Ludgershall, which is just over the Hampshire border. The ruined castle, situate within an earthwork or vallum of prehistoric times, was first visited. This ancient fortification, said Mr. Dale, is an example of a prehistoric site, selected in Mediæval times for a castle. There could, he thought, be very little doubt that these extensive earthworks were of the same character as those at Quarley, Danebury, Sidbury, Old Sarum and other places in that district, and, like them, it was a camp of refuge for the Flint folk and Bronze folk, who, centuries before the time of the Romans, lived in these great stretches of downland. About this place very little was known. He had found some notes upon it by his dear old friend the Rev. R. H. Clutterbuck, and upon them he drew. His information, he says, he takes from Aubrey's notes, corrected and enlarged by Canon Jackson, in 1862. At Domesday the manor was held by Edward, Earl of Salisbury, but seems soon after to have reverted to the Crown; at any rate by the time of Henry II. Ludgershall figures in the struggle between King Stephen and the Empress Maud, and it is probable that it was one of the strong fortresses built at that stormy time. We are all familiar with the scene at Winchester, when Henry de Blois at Wolvesey and Maud at the castle bombarded each other and half the city was in ruins. After Matilda's escape from the castle she fled along the Roman road and halted here in 1141, before going on to Devizes. Grose gives a picture of some of the pieces of the wall, showing round-headed fragments of Norman windows. The seal of Milo, of Gloucester, afterwards Earl of Hereford, was found there, and is engraved in "Archæologia." When Leland came there in 1546, he says the castle was "clene" down, but a lodge had recently been built out of the ruins, and still belonged to the Crown. The castle was part of the large grant made by Richard I. to his brother, John. King John was at Ludgershall in 1212. In 1228, Jollan de Neville, a justice-itinerant of Henry III., was governor. He is supposed to have been the compiler of the well-known Book of Fees called the Testa de Neville. In 1334 the castle was part of the maintenance of Philippa, queen of Edward III. In the reign of Edward VI. it was granted to the first Earl of Bedford, but appears very soon to have been the property of the Bridges family, ancestors of the Duke of Chandos. Sir Richard Bridges, of Ludgershall, who married Jane, daughter of Sir William Spencer, is buried beneath a fine monument in the church. He died in 1558. He was M.P. for Ludgershall in 1557.

Dr. Andrews, of Basingstoke, gave a few historical notes concerning the Empress Matilda, and then the visitors walked round the extensive vallum, and so on towards the main street of the quaint little town, in which the new is fast elbowing out the old, a fact mainly due to the establishment of the military camp about a mile away. The stump of the ancient market cross came in for curious inspection, and much speculation as to the figures that were carved on it but are now almost obliterated. A visit to the church, which has many historic associations and contains a fine monument, which appears to have been rather badly used, of Sir Richard Brydges and Lady Jane, his wife, circa 1558, was then made.

Tea was partaken of at the Crown inn, and at Ludgershall railway station trains were taken for home.

GARGOYLES.

IN his "Notre-Dame de Paris" Victor Hugo likens the building of Mediæval churches to geological formations. Every epochal wave of time adds its alluvium; every race leaves a fresh layer on the monument; every individual brings his store. It would be difficult to say when the gargoyle first made its appearance, says Mr. Charles de Kay in the *Architectural Record*. Perhaps in opposition to the view of Viollet-le-Duc it was coincident with elaborate stone structures, and in a less striking form belonged to the Romanesque before it blossomed in the Gothic. The Germans are wont to say "from the rain right under the spout" as an equivalent of our "from the frying-pan into the fire." Old towns like Goslar, Hildesheim, Rothenburg, still show open rivulets down the middle of the streets during rainy weather; the spouts are still distributing the drainage of picturesque roofs, as of old, beyond the Bürgersteig, the burgher's stepping stone or primitive sidewalk, into the roadway. These survivals explain the origin of the spouts for rainwater rather than the gargoyle. But if we could see the streets of Mediæval towns exactly as they were before the age of Gothic churches, perhaps we should also detect here and there grotesque animals on the spouts carved of wood on such dwellings as ambitious burghers loved to ornament otherwise with carvings and pictures.

Nowhere more clearly than in the gargoyles of Gothic churches does one perceive that a wooden prototype has been repeated in stone. It is plain that a log bored or channelled lengthwise to form a waterspout has been finished in some eccentric shape—a chimæra, a harpy, a nondescript beast—and when required for a structure all in stone has been transferred to that material. Sometimes it is found that metal has been used where that does no harm to the artistic look of the structure.

At the same time, it is worth noting that we have no certain records of gargoyles until after the Crusades, and that fact leads us to the Orient for the fashion in gargoyles that meets us in the thirteenth century. Greek and Roman architecture are not without examples. But it is in the extreme Orient that we find exact parallels, in Ceylon, rainy Burma and Siam, as may be seen by the illustrations of gargoyles recently discovered on old temple sites and published for the first time this year.

There is something that appeals to the sense of fitness in these grotesques in Gothic and Buddhistic architecture when seen in connection with the rest of the sculpture. Taken by themselves, divorced from their subordinate positions, they strike us as a trifle coarse with the grotesquery of their distorted masks and muzzles. But seen in connection with the figures of Divine beings and saints as they stand on their pedestals under their canopies, the whole combining to make a façade such as that of Rouen or Chartres appear like an intricate field of lacework, the gargoyles form a contrast at once pleasing and in harmony with good sense; they are minor parts of a great intricate whole, and should not be thought of separate from the other sculpture.

False views of art often spring from this root of ignorance as to the relation that objects now isolated once bore to their original surroundings. Examples of this in everyday life near to hand are the Chinese and Japanese curios which have been so widely appreciated by our art collectors. Ever since the advent of "chinoiseries" to Europe the finest qualities of Chinese and Japanese art works have been misunderstood, because European interiors do not suit them; this lack of harmony continues to the present day.

But Europe and America have been as grievously at fault in Classic things, more particularly with regard to Greek sculpture, which has been imitated and subjected to surroundings for which the Greek prototypes were never intended. We still mount caryatids where they are not merely anachronisms, but have no function to perform of supporting a superincumbent mass or embellishing an upright member. We hang carved wreaths and apply masks where these have no meaning. We imitate the bad taste of former generations by representing an arch which has lost its keystone, and we place elaborate groups of carved marble in rooms that lack the spaciousness, the open light from the sky, the marble architecture and floral surroundings that belong to them.

The gargoyle had its due place in Gothic churches in connection with the Divine and human figures in sculpture and stained glass on the one hand and the floral and vegetal carvings on the other. These eccentric figures have their own part to play. They contribute to the sometimes heavy humour of Gothic art almost as much as certain faces and figures tucked away in the leafage of capitals within the church or under the seats of the stalls of the choir. Rarely, if ever, is satire expended on them, for they are apt to be too remote for an effectual girding at the pomposity of priests and monks—those perennial taskmasters and purse-bearers whom the architects and sculptors of the church edifices held very often in the deepest disesteem. They belong rather to the realm of the bestiary, the book of fables, and to the domain of minor supernaturalism, a very real land of the imagination, peopled with forms belonging to old, half-forgotten, but not entirely extinct, religions.

As the red-skinned Christians of Mexico were once found to have stuffed the inner part of the high altar at Puebla with their old idols, without the knowledge of their cruel civilisers, so did pagan Europeans slily introduce their discredited gods into the haunts of the new deities, enjoying the fun of getting the better of proud prelates who were ever ready to have them punished or even burned alive for devil worship. They also felt as did the submissive Mexican Indians that perhaps, after all, there might be some power left in the old demoralised gods, some uncanny virtue in their images, which it would be the part of wisdom to conciliate in case the saints were deaf, or otherwise too much engrossed to listen to their prayers. Cautious minds felt that the devil himself was too powerful a seigneur to exasperate.

In various odd forms the primeval worship of birds and beasts and imaginary creatures compounded of human and animal parts adheres to humanity long after strict logic has pronounced them and any belief in their efficacy absurd. That is superstition in its old crude meaning, including belief in warlocks, were-wolves, demoniac hunters, the evil eye.

In the ancient annals of Rouen we seem to touch the very beginning and genesis of the gargoyle in a strange creature called La Gargouille, which devastated the fair land of the Senones long before the term Normandy became the general appellation of the country thereabouts—a demon whose existence was celebrated if not demonstrated by curious rites that betray a pagan origin.

The gargoyle of Rouen was a very astute monster, who showed a partiality for young, soft-fleshed virgins, which one would scarcely expect in a creature so coarse of skin and with so violent a breath. For such a creature, with such a gullet, a Saxon pirate tanned by African suns and pickled by the brine of the Atlantic would seem a more savoury article of diet. One can conceive the gargoyle enjoying a Roman legionary in full panoply of arms, cracking a Roman knight as you would a nut. But tender maids were his pet specialty, and Rouen found it necessary to give him one from time to time in order to protect their husbandmen, flocks and herds. The staple of his human diet, however, was a meal of such men and women convicted of crime as Rouen could best spare, so that it became a practice to devote to the gargoyle prisoners incarcerated for one reason or another, despite the fact that by so doing the people were deprived of one of their chief sources of amusement, the decapitation, the quartering or the incineration of their fellow-man.

It was under Clotaire II., when Christianity was making slow headway against paganism in France, which still held its own among the folk. A holy man from Rome had taken up his abode in a neglected fane of the Druids, had cleansed it of the foul goblins of the old faith, and begun to declaim against the sons of Belial. The time arrived for feeding the gargoyle, and a deputation of the chief men was ready to take a noted criminal to the proper spot and leave him as a sacrifice. St. Romanus perceived the opportunity offered him. "Let me take him to the gargoyle," he exclaimed, "and if I can exorcise the monster with bell and candle, you, on your part, must promise to accept baptism at my hands and build a temple here to the one true God."

The men of Rouen had no great desire to enter the haunts of the gargoyle. They reflected that a Christian missionary was no ordinary dish, and the gargoyle might be mollified if, in addition to the criminal, they offered him a succulent foreigner. With their tongues in their cheeks and a reprehensible flickering of the left eyelid, they closed the contract with St. Romanus and watched him and the fettered criminal disappear among the great beechwoods on the other side of the Seine.

What was their amazement to see Romanus and the criminal return leading the gargoyle in captivity, bound by the stole of the saint, his fiery breath all gone, his long tail dragging piteously behind. Still terrible to look upon, the gargoyle was a danger no longer. Fastening him to a stake in the same square on which, centuries later, the Maid of Orleans was done to death as a witch, the citizens heaped many dry faggots and bundles of straw such as they used for thatch about the monster and saw him reduced to cinders—all but his head and scaly neck, which remained incombustible, owing to the fiery breath that used to issue thence. It was from this part of the dread gargoyle that wood-carvers of later days took the design for the spouts, which are condemned to emit cold water as a perennial jeer and flout against the creature that seared men with his red-hot exhalations. It was thence, according to this veracious chronicle, that the gargoyle took its name.

Ever after, in remembrance of Saint Romanus and his prowess, the good citizens of Rouen have been in the habit of building a properly horrible dragon against Ascension Day and parading him through the streets. He is known in the feminine as La Gargouille, notwithstanding the fact that such malefactors are always of the male sex, and they burn him on the public square with ceremony and great merriment, although not allowed to include human beings in the sport. The burning of human beings, it is true, did not die out, but it was done separately and on the most authenticated grounds of heresy or witchcraft.

In this variant on the story of Saint George and the Dragon we have a confused remembrance of the early pagan methods of disposing of criminals among the Gauls. It was their practice to make the burning of criminals a popular spectacle. Giants and dragons large enough to be the cages for several victims were constructed of osier, and these huge effigies were carried about in triumph and finally burned with their human, living contents on a consecrated spot. Some such monster of willow-work and straw, which devoured criminals and was not averse to an occasional virgin as a *bonne bouche*, may well have lain at the bottom of the legend. A saint from Rome put an end to the gargoyle, which we must imagine as an osier image like the famous Tarasque of Tarascon. The criminal saved from certain death by the saint gives the clue. The gargoyle was a spectacular machine devoted to capital punishment and symbolised some ancient god of fire.

As such it takes its place among the goblins on the outer walls of Gothic cathedrals, degraded to base uses, but preserving a reminiscence of the old pagan days. The only parallel among the Greeks and Romans was the lion mask that decorated the roofs of temples or spouted water into the fishpond or bath. But that also can be traced back to superstitious origins, for the lion mask, like the mask of the Medusa and the head of the griffon, represented talismen to protect men from various ills. Pausanias mentions that Akroteros, a daimôn or genius belonging to the cortège of Bacchus, was remembered at Athens by a mask fixed in a wall. So we see that the same process was going on in Classic times, the souvenirs of old rustic religions clinging to the temple walls as decorations rather than idols. Akroteros was doubtless some local form of Pan, the old god degraded to a satyr who haunted the hill-tops, who in course of time was taken up and gathered into the general worship of Bacchus.

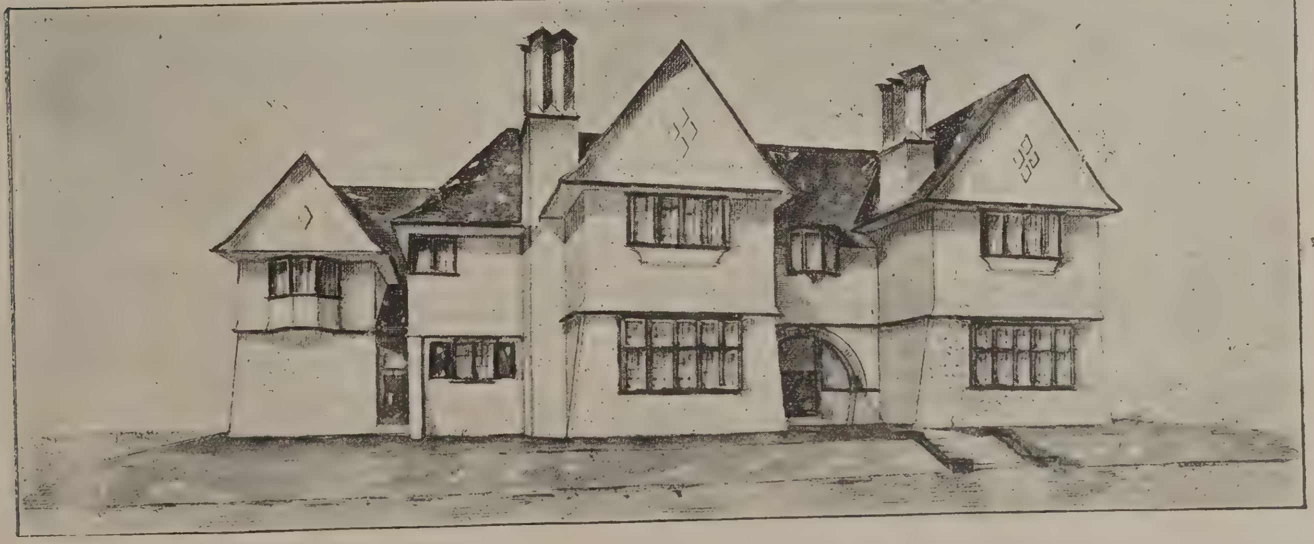
Gargoyles are an element in the love of nature shown by the sculptors and architects of Northern Europe during the Middle Ages, but they also reflect the supernatural side of nature worship which ran contrary to the ideas of Rome and Byzantium. In the long run the classicals prevailed, and the architecture which included and protected them, as a great forest includes and protects creatures of every kind, was stigmatised as barbarous and flouted by the word Gothic, and so had to disappear. That its force in the twentieth century is not entirely spent is clear; for religious and secular buildings are still designed on lines that are accepted as Gothic, though the rebellious, forceful spirit of the old builders no longer inspires them.

ITALIAN ANTIQUES.

A REPORT has been prepared by the American consul at Messina upon the regulations of the Italian Customs authorities affecting antiques, which are of special interest to tourists in Italy. All goods coming from Taormina in Sicily for shipment to any foreign port upon arrival at the Italian Custom house in Messina must be sent at the shippers' expense to the museum either at Palermo or Syracuse for examination by experts to discover if the cases contain any antiques. The declaration that they do not contain such articles carries no weight whatever. If an antique is found which comes under the law forbidding its exportation it is seized. If it is of a class that can be exported by payment of an export duty it is released when that requirement is complied with. If, however, this article be found in a package which was entered for exportation upon a declaration stating that no antiques were contained therein the shipper is subject to a fine which may amount to as much as 30*l.* The consul quotes a case in point, in which an artist who had lived at Taormina on his departure packed all his belongings and sent them to Messina for shipment. He declared the contents as household effects. When examined there were found numerous antiques of Italian origin but of little value, and which were not all purchased in Italy. The authorities decided that they could be exported upon payment of the duty, but that he must pay the fine for false declaration. For this reason it would be well for visitors to Taormina to be warned of the existing conditions. The antiquarian who sells a piece of old furniture will naturally not find it to his interest to inform his customer of the regulations, and therefore the consul suggests that the only safe method for the purchaser to pursue would be to stipulate that payment be only made when the bills of lading of the steamer on which his goods are shipped are placed in his hands. Complaints have frequently been made by purchasers who only too late discovered that even after they had paid for their goods they could not export them. The conditions at present are such that a person not conversant with the law may purchase a genuine antique from a dealer only to discover that the exportation of his purchase is actually prohibited, and his only recourse is to make a legal claim against the seller, which is a most expensive proceeding.

HOUSE NEAR NEWMARKET.

THIS house was erected last year on an estate near Newmarket, as a summer residence. It contains a lounge, hall, two reception-rooms, butler's pantry, kitchens and usual offices, ten bed and dressing-rooms, bath-room, and lavatories, a servants' hall and men-servants' room, and two bedrooms are now being added. The architect for the whole of the work is Mr. H. Steward Watling, F.S.A. (Scot.), of Kingsway House, Dovercourt, and Tavern Street, Ipswich; and the contractor is Mr. S. Rolfe, who is also building the stabling, motor-house and cottages.



HOUSE NEAR NEWMARKET. [*H. Steward Watling, F.S.A. (Scot.), Architect.*

NOTES AND COMMENTS.

THE committee who arranged for the testimonial to Mr. PHENÈ SPIERS last year intended to make some arrangement by which drawings of old buildings which were subsequently destroyed or altered should be preserved. Mr. SPIERS has assigned the money remaining as the nucleus for such a fund, and has invited a committee to assist him in organising and arranging this scheme. The authorities of the Victoria and Albert Museum have expressed readiness to make the drawings a part of the library collection, where they will be accessible to students. The committee invite architects to present drawings. The collection will comprise records of important public buildings, and of works by eminent architects down to the end of the nineteenth century; photographs of buildings which no longer exist, or which have been materially altered; and sketch books of deceased architects of repute. The project deserves to be generously supported, for it will be hereafter an advantage to have as many views as possible of buildings deposited in one place. Information respecting the proposal can be obtained from Professor LETHABY and Mr. R. WEIR SCHULTZ.

THERE is so much mystery about the ancient architecture of Mexico that every new discovery acquires peculiar interest. When the buildings in Yucatan were revealed to the Spanish invaders that part of the country was occupied by Maya Indians, and it was concluded they were the descendants of the original builders. On last Christmas Day M. DE PERIGNY found in the midst of the forests of Petan in Guatemala a town or settlement now called Rasun, in which there were more than thirty ruins of large buildings besides mounds which were constructed of earth and stone. They were all, he says, in the Maya style. There was greater simplicity than usual, few ornaments and hieroglyphics. It was impossible at the time to make a close investigation, but two of the buildings which stood apart he calculated as having heights of from 60 to 70 metres. Two days later he found in the district other ruins, including six large pyramids. M. DE PERIGNY has since explored the place again, and if possible he will in the winter publish a description of his discoveries.

THERE must be something peculiar in Irish air which makes union among its people an impossibility. The poet who described the country as "a heap of uncementing sand" was not a geologist, but he understood the character of his countrymen. Why, for example, is it impossible for the architects and builders of Dublin to be able to agree about conditions of contract? The subject has been under debate, but apparently a one-sided one. The following resolution by the Master Builders' Association reveals an Irish peculiarity:—"That although conditions of building contract have been under consideration for many years, we now regret to learn from the public Press that the members of the Royal Institute of Architects of Ireland have, at a recent meeting, adopted without discussion a set of conditions, without any consultation with the Builders' Association as to their views on a matter so vitally important to their interests, contrary to the custom and practice adopted in England and Scotland, where this matter was the subject of many conferences between the architects and builders prior to its mutual adoption. While willing and anxious at all times to carefully consider any proposals whereby equitable terms of contract might be agreed on, we respectfully decline to be forced to accept or sign conditions which are, in our opinion, inequitable and unfair, and which differ very materially from any accepted conditions at present in use in the United Kingdom." Although they are unable to agree with their countrymen, the builders announce that they are prepared to accept the conditions agreed on between the Royal Institute of British Architects and the Association of Master Builders of Great Britain and Ireland. In other words, anything is acceptable so long as it is not native. Perhaps the true cause of the difficulty arises from the scarcity of builder's work, and the blame is cast on the architects.

THE British vice-consul at Tangier appears to be sanguine that Morocco is a promising field for all connected with building material. He points out that British manufacturers will find it well worth their while to study carefully the Morocco market and the native tastes; they might do worse than follow the lead of some of the most successful of their rivals, and send out expert travellers to find out exactly the type of article which is likely to find most favour in this market. Flooring and roofing tiles, cement and gypsum found a profitable market, and were imported to a considerable extent. Hardware formed another large item in the French import trade; large quantities of iron bars and girders, machinery, steel girders, bars and sheets, tools, &c., were received. Belgian merchants seem to have thoroughly grasped the possibilities for profitable trade in this market, and trade under this flag has nearly trebled during the year. Cement, iron girders, cloth, china and glassware are the chief items of Belgian industry which have now made their appearance in this market in considerable quantities. Imports from Spain show a great advance; the most important representative items of Spanish industries on this market are bricks and tiles, cement and gypsum, furniture, wines, fresh fruit and vegetables. As regards cement, the Belgian merchants hold the market with a cheap manufacture. British potters should be able to compete successfully in the brick and tile markets. Trade in furniture has increased from 9,752*l.* in 1904 to 12,887*l.* in 1905, and there is every prospect of further expansion owing to the growing European population; the furniture required is of a cheap and light description. With the favourable result of the Algeciras Conference it is to be hoped that a new era will begin for industry of all kinds; harbours and breakwaters must be built, perhaps at no distant date roads may have to be made. There is sure to be a great demand for tools of all sorts and descriptions, and all the many conveniences required for a modern town will be in demand if, at any rate, the more important of the coast ports are to be modernised. British firms might find it worth their while to send out from time to time expert travellers who can see for themselves the possible openings of the future. The imports which show most progress point to the increasing stimulus in the building trade and rapidly growing European population, while the exports which show declines testify to the failure of the rains and consequent scarcity of corn and pasture. The reason of the increase in cement, bricks and tiles, hardware and furniture, is to be found in the great stimulus experienced in building. The right of foreigners to acquire land having been confirmed by the Powers represented at the Algeciras Conference, it is certain that the demand for building material of all descriptions, as well as for furniture, will increase considerably.

ILLUSTRATIONS.

FIGURE OF "JUSTICE," NEW SESSIONS HOUSE, OLD BAILEY.

NEW OFFICES FOR THE HEARTS OF OAK BENEFIT SOCIETY, EUSTON ROAD, N.W.:—BALCONY IN DELEGATES' HALL.

FREE LIBRARY, BANGOR.

CATHEDRAL SERIES.—TRURO: THE NAVE, LOOKING WEST.

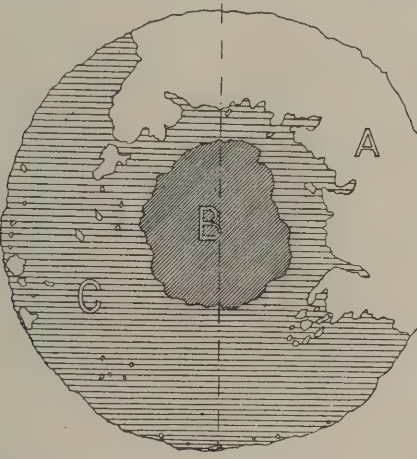
THE CHARING CROSS ROOF.

THE report of Major J. W. Pringle on the circumstances attending the fall of part of the roof of the Charing Cross terminus on December 6, 1905, has at last appeared. It is dated March 25. After describing the construction of the roof and reporting the evidence of witnesses, the following remarks about the cause of the accident are given :—

Owing to the great mass and weight of the falling *débris*, and to the necessity for safeguarding the remainder of the roof, it was not until midday on December 9 that it was found possible to trace the tie rodding of the fallen principal throughout its length. It was then found to be broken at one point only, viz. in the third panel from the west, about 13 inches from the third coupling joint.

The evidence proves beyond a doubt that the snapping of this particular tie-rod was the immediate cause of all that followed. The west wall, without the support of arched buttressing (as in the case of the east wall), yielded eventually to the severe thrust from the loosened bow of the first principal. But the time occupied—twelve minutes—shows that not only did the wall offer great resistance to tearing apart, but that much work had to be accomplished in breaking away from the hold exercised on the crippled principal by the lines of purlins, which were stiffened by intermediate lattice girders, and in overcoming the resistance to distortion of the main rib itself.

Turning now to the broken tie-rod, the eastern end in falling buried itself like a bayonet 2 feet in the ground. This end was unearthed on December 7, but the fractured surface was already rusted and corroded, and told no tale. The western end fell on the timbering of No. 2 platform, and was covered with corrugated sheeting and fallen débris. It was thus fortunately preserved from the effects of damp and dirt. I saw it within a few minutes of the time it was uncovered on December 9. The surface of the fracture was then as clean and fresh as could be desired. The appearance was typical of a fracture at a badly formed weld. Approximately two-thirds of the line of fracture is at an angle of about 56 degs. with the axis of the bar, whilst the uppermost third is vertical. The surface of the fracture may be divided for the purposes of description in three parts (*vide* sketch). A belt A about an inch in width (along the vertical line of fracture) extends round the upper and northern half of the circumference of the bar; over this area the fracture had the bright crystalline appearance of iron suddenly torn apart. In the centre of the bar can be seen a flaw or pocket B, with a smooth fire-skin surface, surrounded by fragments of dark-coloured ash ; this area is, roughly, circular in shape, with a diameter of 1½ to 2 inches. The third portion C, mainly consisting of a belt 1½ to 2 inches in width round the lower and southern half of the circumference, was generally discoloured and corroded, with a spongy appearance common in ill-formed welds, but here and there small spots and pin-points, especially round the circumference, of clear crystalline appearance, showed signs of freshly fractured metal.



As set forth in the evidence given by Sir John Wolfe Barry, Sir Benjamin Baker and Mr. Kirkaldy, there can be no doubt that the fracture occurred at a weld in the bar ; that the core of the bar B had never united, and had never possessed any value to resist tension ; that the surfaces of the area C had united, probably indifferently, except in the immediate neighbourhood of the circumference ; and that the flaw, which originated in central pocket B, had gradually extended outwards over the area C under the severe tensional stress to which, owing to the want of union in the centre, the bar had been so long subjected. The isolated bright spots and specks over the area C show that immediately before the bar snapped there was good metallic contact at these various points, as well as over the whole area A.

The total area of metal which was doing work in resisting tension at the moment when the bar broke may be roughly estimated at about one-third of the whole area, or from 5 to 6 square inches. The total calculated stress in tension was 81.5 tons, or from 13 to 16 tons per square inch of available metal. Taking into consideration the eccentric position of the bulk of the available area A, it will be admitted that so high a stress would be certain to cause rupture the moment the threadlike points of contact in the area C parted.

The normal stress in tension, due to weight of roof only, on this bar was about 61.5 tons. The additional stress brought to bear by weight of staging, &c., necessary for repair work, was thus 20 tons, or nearly 30 per cent. more. The bar was subjected to this greatly enhanced stress for three weeks continuously before it failed, and prior to the middle of November had for four months been undergoing a stress 15 to 20 per cent. greater than would be due to weight of roof only. It is clear therefore, I think, that the immediate cause of failure was the additional weight necessarily imposed on the principal in connection with the repair work, and it is reasonable to suppose that the failure would not have occurred at the moment it did if the tie-bar had been subjected to stress from weight of roof only. It is equally clear that the weight of staging, &c., merely accelerated the failure, which, judging from the appearance of the fracture, was bound to occur at a comparatively early date. That the flaw was growing is plain from the fact that the bar successfully withstood equally high stress imposed for a long period in the year 1898, when staging of similar weight was used for repainting work.

Sir John Wolfe Barry and Sir Benjamin Baker state in their evidence that it is probable, judging from the procedure taken in the case of the New Street station roof, Birmingham—the prototype of the Charing Cross station roof—that the tie-bars were hydraulically tested before erection with a stress of 9 tons to the square inch (=144 tons on this particular bar), and that every examination and test of the ironwork was made which the skill and care of engineers at that time could devise. Notwithstanding, the original bad flaw in the weld of this bar remained undetected.

Once the roof had been erected, the possibility of a serious flaw being in existence, and growing in size until it caused a failure has never before been recognised. This is the first known case of a tie-bar in a contained arch breaking under a reasonable stress. It would not, I think, have occurred to any engineer to make any special examination to discover the possible existence of such a flaw. Periodical examinations would be made to determine the extent of general repair work necessary. At such periods the visible weakening or loss of metal due to rust or corrosion could be gauged, the condition of the bolts and fastenings determined, and necessary action could be afterwards taken to clean and repaint ironwork, renew bars that were much decayed and replace fastenings. But, as given in evidence, no practical method exists of detecting an interior flaw in a bar of this size under high tension unless some sort of fissure in the outer surface was apparent. No apparent fissure could, I think, exist under such stress without the bar snapping immediately. The evidence of Mr. Kirkaldy on the difficulty he experienced in his works of discovering and proving the existence of welds at both ends of these tie-bars, shows that the welding on the surface of the bars was very well executed.

I have not neglected to consider the possibility of other causes which might wholly or in part have occasioned the failure of the roof. I propose now to deal with the principal theories which have been suggested.

(*a*) Reduction of strength by rust or corrosion, consequent upon want of maintenance. The tie-rod that broke had originally a diameter of 4½ inches, and a sectional area therefore of 15.9 square inches. Most of the paint which was laid on in 1898 had perished, and the surface of the bar was pitted considerably by rust. But from careful measurements made by Mr. Kirkaldy the mean diameter of the bar after fracture was found to be 4.4 inches (area =15.2 square inches), so that the actual loss of metal amounted to 4.4 per cent. of the original area. This is an insignificant loss, and cannot be held accountable for the failure.

(*b*) Fatigue of material, due to long-continued stress or vibration set up by the motion of trains, &c. There is no evidence to prove this, but rather the reverse. The test pieces cut out of the bar by Mr. Kirkaldy close to the fracture broke under a tensional stress of 20.6 tons per square inch, and showed a contraction of area equal to 40 per cent. The iron had the appearance and character of new metal.

(*c*) Wind pressure. The afternoon of December 5 was calm and still. The fact that a fortnight previous to the failure, when the full weight of the staging was imposed on the principal, there was half a gale of wind blowing, and that failure did not then result, goes to prove that the effect of the wind on a roof of this shape, sheltered by high walls, is very much smaller than has been generally estimated.

(*d*) Disturbance of foundations, due to excavations in connection with the tubes of the Baker Street and Waterloo Railway. These tubes are nearest to the west wall of Charing Cross Station in Northumberland Avenue at the junction of Whitehall Place. The eastern tube is about 125 feet horizontally from the station wall. The extrados of this tube (11 feet 8½ inches in diameter) is 56 feet below the ground level, and 10 feet below the upper surface of the London clay. Any disturbance due to the excavation for these tubes would in the first place have affected the station viaduct, which carries the walls of the station. It would at once have shown itself in visible cracks in the arching of the viaduct. No such cracks have appeared since 1900, when the tubes at this point were constructed. No subsidence either has been experienced in the walls of the Avenue Theatre, which lies directly between the station and the tubes. There is therefore nothing to support this theory.

(*e*) Absence of buttressing to the west wall of the station. The design of the roof, as has been stated in the description, was that of a contained arch. So long therefore as there was no failure in any integral part of the design vertical pressure alone was brought to bear on the walls supporting the roof. That they were strong enough to stand this vertical pressure is, I think, proved by the fact that they carried the roof for so many years. Sir John Wolfe Barry states in his evidence that the buttressing to the east wall was decided upon after the roof had been erected, as a safeguard to the possible effect of wind pressure from south-westerly gales upon the western wall, which was at that time much more exposed than in the present day. From the point of design, at the time the roof was constructed, it cannot be said that buttressing was necessary, nor in fact would such buttressing have prevented this particular tie-bar from failing in the way it did.

I come to the conclusion, therefore, that the fall of the roof was brought about by the breaking of the tie-rod in the third panel from the west of the main principal nearest to the wind-screen. The fracture occurred at a weld, by reason of a flaw in the welding. This flaw, commencing in the heart of the bar, had gradually extended outwards. The additional weight of the temporary staging was the immediate cause of failure, but as the total stress in tension at the time of failure on the whole sectional area of the bar did not exceed 5.13 tons per square inch, I find that, for the necessary purposes of repair, such a stress was not in any way unreasonable, and could not be anticipated to cause danger of failure. Lastly, I do not consider that any reasonable precautions were neglected by the engineer or his staff in charge of the roof, or that it was possible by any practicable method to have discovered the flaw in the tie-bar.

The particular lessons to be learnt from this sad accident are as follows:—

1. That in old iron roofs of similar design, more especially where welded bars of any size have been used, there is danger to be guarded against of concealed flaws, which may grow in size under continued tensional stress, although in itself that stress may not be exceptional.

2. That unless additional security be afforded by the duplication or strengthening of the main tensional members there is possible risk of failure.

3. That where such risk of failure exists, it is necessary to consider whether the walls supporting the roof are in themselves sufficiently strong to resist the thrust which such failure will bring on them, and if not to strengthen them.

Mr. R. P. Gibbs, Kingsbridge, has been elected district surveyor of South Herefordshire. There were seventy other applicants.

LIVERPOOL CATHEDRAL.

The annual meeting of the Liverpool Cathedral general committee was held last week. The report congratulated the subscribers upon the completion of the first portion of the work. The foundations of the cathedral choir, lady chapel and chapter-house were finished by the contractors in the month of April. On December 31, 1905, the total amount of subscriptions promised to the cathedral fund amounted to 250,790*l.*; of this 22,717*l.* remained to be paid. The interest earned amounted to 13,611*l.* 16*s.* 5*d.* Of the subscriptions 27,031*l.* was contributed for special objects, leaving available for the construction of the cathedral and of the lady chapel 237,370*l.* There was expended down to December 31 last, in the purchase of the site, legal and general expenses and in the construction of the foundations, 64,033*l.* A further sum of about 12,000*l.*, in addition to the sum expended down to December 31, 1905, was then required to complete the foundations, leaving 161,000*l.* available for the building of the cathedral and lady chapel. It is estimated that the portion of the cathedral now being proceeded with, inclusive of the lady chapel, will cost about 240,000*l.*, so that to complete these there will be required in round figures further donations to the extent of 80,000*l.*, in addition to the 136,000*l.* available on general account and the 25,000*l.* given towards the erection of the lady chapel by the Earle and Langton families. The portion of the building which the committee are now undertaking comprises the choir, the lady chapel and the clergy vestries, and they have accepted the tender of Messrs. Morrison & Sons, of Wavertree, for the erection of this portion, which will be proceeded with at once. This will enable Divine service to be conducted, and place the committee in a position to call upon the Ecclesiastical Commissioners for the property which has been set apart for the endowment of the chapter. Towards the building of the chapter-house the Freemasons of the province are generously contributing 10,000*l.* The committee most gratefully acknowledge the many handsome gifts presented during the past year. Among these they may mention the choir stalls, bishop's throne and choir pavement for the main building; and for the lady chapel the reredos, the organ, the Holy table and ornaments, the flooring of the sanctuary and several windows. Under the will of a Liverpool gentleman a peal of bells has also been provided for, and they venture to make an urgent appeal, not only for the 80,000*l.* required to complete the first portion of the work, but for such further funds as would justify them in undertaking a further portion of the great design on which they have embarked. Subscriptions are not required to be paid in one sum, but may be spread over five or seven years. They have received intimation of some bequests, and they venture to hope for further contributions in this form.

IRISH LABOURERS' COTTAGES.

The president of the Royal Institute of the Architects of Ireland, Mr. W. M. Mitchell, writes in reference to the Bill for granting further subsidies towards the erection of labourers' cottages. He says:—Some of the provisions contained in this Bill are likely to affect injuriously the interests of Irish architects. The Council of the Royal Institute of the Architects of Ireland have the proposal to issue stereotyped model plans under their consideration, and they have come to the conclusion that unless these plans are placed in the hands of competent architects they will prove of little advantage. It is evident that the attempt to make all these buildings conform to one or two uniform types of plan must fail to produce satisfactory results when the variety in the character of the sites is taken into account. Although the buildings themselves are of simple design, it will need the skill and resourcefulness of a qualified practitioner to obtain the best results as regards aspect, access of sunlight, &c., in each case. For these reasons the Council are of opinion that these model plans should only be treated as guides as regards the accommodation required, dimensions of rooms, cost and such like data, and that they need not be followed with absolute rigidity, but that a reasonable discretion should be allowed, so as to adapt them to any particular site.

Moreover, the Council believes that many of the cottages already built have been designed and superintended by utterly unqualified persons, and are in consequence creditable to no one concerned in their erection. We feel strongly that the employment of such persons by rural district councils for the sake of a paltry saving of fees is most reprehensible, and frequently results in the production of ill-designed and ugly structures, in which little or no consideration is given to the health and comfort of the inmates.

The Council would, therefore, gladly welcome the addition of a clause to the Bill which would enable the Local Government Board to insist on some kind of qualification on the part of those employed to supervise these buildings. If this were done we believe the results would be very satisfactory, and that we should witness a vast improvement in both the comfort and the appearance of future cottages. The mistakes which have been made in the past would be avoided, and an intelligent design and skilled supervision secured.

The extra cost of such a welcome change would be very small indeed, and could be possibly met by reductions in the legal expenses, which seem to me (I speak as a layman) to be very high at present.

FERRO-CONCRETE.*

THE employment of ferro-concrete dates back many years. When at first the theory was advanced to use iron in combination with concrete in order to increase the stability of the latter, a good many engineers were doubtful as to this new method of construction, and assumed a reserved attitude. When, however, the very simple experiments by gradually attained improvements resulted in serviceable construction, opinion no longer diverged, and the employment of ferro-concrete increased in number and magnitude as time progressed, and it asserts now a most prominent place in the construction of buildings. In the near future a further progress may be predicted for this building system. There may of course still prevail apprehensions as to the nature of the new method, but most of the theorists are cured of their incipient prejudices. The actual merits of reinforced concrete constructions can no longer be denied.

Ferro-concrete, by means of its adaptability to all forms and its manifold uses, enjoys the preference to either of the materials which form its constituents. Masonry being too massive for many purposes, and iron structure too clumsy, both can be replaced with great advantage by the employment of reinforced concrete. It was an open question to what changes the metal was subjected while in use, whether the cohesion was sufficient to withstand repeated shocks, whether rust did not injuriously affect the iron and otherwise influence the concrete, and whether fluctuations in the temperature did not exercise a destructive effect on either material. The practical experience gives a most satisfactory answer to all these questions.

Another important question that has been troubling the theorist's mind from the very beginning remains still to be solved, namely, what is the degree of firmness of armoured concrete? The solution of these problems is extremely difficult. Put all theories aside, and a fact comes to our aid which is of greater moment than all demonstrations. We have methods of building by means of which constructions of every description can be and are erected by observing the necessary care in the execution, such buildings not only confirming the system, but exceeding the expectations as to the purposes for which they are built. There are engineers who contend that for the computation of ferro-concrete no formulæ can be determined. This may, to a certain extent, be true, but all the same the latest investigations have brought us nearer to that end, and such formulæ have now really been laid down and proved its usefulness.

For a century iron has partly formed the material for the construction of bridges, and for about sixty years iron girders have been employed for the same purpose. Disappointments and accidents did not allow the mistrust in the iron constructions to die away; but all these doubts did not daunt the engineer to press forward with the iron construction, and it can safely be said that the same has now developed into a great extension. As regards the dimensions of the pieces used then, more or less accurate formulæ were framed by experience, and the inventors did not trouble about anything else, because they had all confidence in these formulæ until such time arrived when, as several accidents happened, distrust against this construction reappeared. In spite of these mishaps, nobody thought of giving in; it only had the effect that the engineers tested the iron construction of the bridges over again, and through their testing and examining operations many mysteries were unravelled. Similar developments have taken place with ferro-concrete. While engineers were doubting and scientists calculating, practical men continued to employ reinforced concrete and to develop its potentialities. It is due to them that from the experience gained new facts were put forward. We have reached the point at which the doubt is being transformed into absolute confidence.

It is a common occurrence that nothing is more dangerous to a new invention than the same being only half known, and nothing can more impair the progress of a new system than ignorance. People either do not know the nature of a system or fail to judge its development.

At the present time things look different with ferro-concrete. The competent engineer is cognisant of its principles and various uses, and further knows how to judge of its advantages and disadvantages without prejudice.

Under the term "Reinforced concrete constructions" all those works must be included which are made of Portland cement, concrete and iron in such a manner that both materials intimately connected with one another can jointly exercise a statical effect against external forces. The theory is based upon the fact that the concrete resists compressive forces, while the iron, on the other hand, bears the tensile stress, thereby considerably increasing the otherwise limited tensile strength of the concrete.

The advantages of the ferro-concrete constructions, as compared with ordinary constructions, and the statical co-operation of the two otherwise so unequal materials are based upon the following fundamental qualities of the same:—

1. The concrete completely protects the enveloped iron against oxidation.

2. The adhesion of the Portland cement to the iron is very considerable and nearly equal to the shearing strength of the concrete.

3. The co-efficients of linear expansion through temperature are nearly equal.

4. When the iron surrounded by Portland cement concrete is subjected to a tensile stress, the expansion of the iron does not injure the concrete, as the latter expands with the iron and owing to its elasticity recovers its former condition without, as above stated, its strength being impaired in the smallest degree.

From the experiences gained by the Monier system, it is known that a safe protection against rust and a sufficient adhesion can only be obtained if the proportion of the mixture of the concrete is not too meagre, and if such an amount of water is added that the so-called plastic state of the concrete is obtained. It must be observed that the reinforced concrete on account of the embedded iron and the comparatively small body of the concrete cannot be rammed so well as is the case with ordinary concrete. I take as the lowest limit for the mixture constituents 1 to 6, especially with regard to the higher compressive strength of a richer concrete, as in all reinforced concrete constructions a high compressive strength of the concrete is imperative. As regards the adhesion of the concrete to the iron, 650 lbs. per square inch, being the result of exhaustive experiments by Professor Bauschinger, is generally accepted. This value, however, can in no way be regarded as normal. Through the latest experiments it has been proved that the adhesion of the embedded iron bar ceases when the strain in the iron exceeds the limit of elasticity. The adhesion of the concrete naturally varies proportionate to the diameter of the iron. The highest figure or values for the adhesion will be obtained from such bars as are not embedded too deep in a concrete body, so that when pulled out the tensile strain does not exceed the elastic limit of the iron.

In the following table the results of my own tests regarding the power of adhesion of the concrete to the iron with different proportions in the mixture and with various percentages of water are shown, expressed in pounds per square inch, namely:—

Percentage of Water Added.	1 : 1	1 : 2	1 : 3	1 : 4
10 per cent. . .	217	274.5	274.5	375.5
15 per cent. . .	664.5	708	578	549
20 per cent. . .	404.5	404.5	361	361
25 per cent. . .	322	433.5	322	346.5

Percentage of Water Added.	1 : 5	1 : 6	1 : 7	1 : 8
10 per cent. . .	433.5	390	230	173.5
15 per cent. . .	303.5	274.5	217	144.5
20 per cent. . .	173.5	173.5	159	101
25 per cent. . .	115.5	173.5	129.5	101

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* A paper by H. Kestner, read at a recent meeting of the Institute of Mechanical Engineers, Johannesburg.

The figures give the average result of only two tests, and can therefore not claim to be absolutely accurate. All the concrete bodies cracked when the iron bar was pulled out, so that one is justified in stating that with larger concrete bodies or through the additional reinforcement by stirrups, which would prevent the cracking and breaking, a considerably greater strength or adhesion could be gained.

The adhesion is limited by the shearing strength of the concrete. Although the strength of the former exceed in point of fact the latter, a test can give no other result, because the iron in such a case would be pulled out together with a thin cover of concrete.

It is proved by tests that the coefficients of linear expansion for iron and concrete are nearly equal. In the earlier history of ferro-concrete constructions great stress was laid upon the equality; the knowledge of to-day, however, shows that a small difference in the linear expansion would not matter much. Considering the adhesion and the great elasticity of the concrete, the difference in the linear expansion would be counteracted by small internal strains for the usual differences in the temperature. Through comprehensive fire tests already made it is proved that a disconnection of the iron and the cement mortar, which might become dangerous to the stability of the structure does not take place, not even under a very high temperature or quick changes through water being poured on. The reinforced concrete structures, owing to their being bad heat conductors, are not so much affected by the heat as the ordinary iron or steel structures.

The fourth fundamental quality of concrete is its elasticity when used in connection with iron, which would have been anticipated much earlier. The first experiments for proving that elasticity were only made some years ago by Consideré. It was already known that cracks in the concrete became visible only under the high strains the reinforcement was exposed to. Even the linear expansions of the concrete were measured, and with the assistance of the modulus of elasticity for concrete the highest tensile strains were calculated, which were found to amount from 750 lbs. to 1,000 lbs., and even 1,445 lbs. per square inch, while the ordinary concrete did not show more than from 175 lbs. to 220 lbs. per square inch. The tests made by Consideré were carried out with prisms of a square section of $2\frac{5}{8}$ inches side and $23\frac{3}{8}$ inches in height, these prisms being reinforced by round iron bars on the side where the tensile strain was expected. The loading on the prisms was done in such a manner that one end of the same was fixed and the other end was subjected to a bending movement, which was equal to all cross-sections. The elongations of the sides where the tensile strains set up were measured under the increasing load. The proportion of the mixture was 1 : 3; the reinforcement consisted of three round iron bars of $\frac{3}{16}$-inch diameter. Several prisms were left without reinforcement for the purpose of comparison. With one of the prisms the bending moment was increased to such an extent that on the side of tension elongations of $\frac{1}{16}$-inch to the yard could be determined. Then a moment being 44 to 71 per cent. of the first exercised moment was repeated 139,000 times, the prisms being every time reduced to the unloaded state. These repeated strains showed elongations of $\frac{1}{50}$-inch to $\frac{1}{20}$-inch to the yard. Small concrete bars of a cross section of $\frac{1}{2}$-inch by $\frac{5}{8}$-inch were cut out of these prisms, and were again subjected to bending. This experiment showed the strength of these concrete bars to be surprisingly high and nearly equal to the strength of fresh mortar. Through parallel tests with concrete prisms without reinforcements it was determined that the elongation at the breaking point varied from $\frac{1}{254}$-inch to $\frac{1}{127}$-inch. One must therefore conclude that in a body of reinforced concrete the iron affords to the concrete the capacity of allowing a much greater elongation without breaking than concrete without any reinforcement. Consideré explains these different qualities in the following way:—As is generally known, a metal bar, when subjected to a tensile stress, extends at first symmetrically along its whole length; with increasing tensile strain it contracts at a certain point, where it then undergoes very considerable local elongations. If thus the elongation between the ends measures about 20 per cent. it is in reality about ten to fifteen times greater near the point of breaking. Assuming now that the state known as contraction were to occur also with the cement mortar, then the elongation measured between the ends of the test pieces would only be an average elongation and the mortar would, in fact, be capable of allowing greater linear expansion. In the ferro-concrete constructions the limit of elasticity in the iron is considerably higher than that of the concrete. Under the stress of the tensile forces the iron will still exhibit symmetrical elongations over the whole length when the cement mortar already begins to contract at a certain point. But the adhesion causes the concrete to elongate with the iron and in the test piece throughout, the concrete will undergo the utmost strain it is capable of, and the rupture will in fact occur only with such elongations (measured between the ends), which are considerably greater than in bodies without any reinforcement.

The explanation given by Consideré is very comprehensible, if the contraction in the cement concrete is really in existence. In order to prove this one must observe the elongations of the test pieces over short sections during the tensile applications of the tests, when it will be noticed that the various sections have no uniform elongation over the whole length. In respect of these bending tests for the division of forces of the iron and concrete, calculations were made by Consideré which showed that the concrete possessed no greater tensile strength than was proved with ordinary prisms. This calculation, however, was not correct in all details, and Consideré therefore made fresh tensile tests with reinforced concrete prisms, which can now be considered as conclusive. Mortar prisms of a square cross section of $1\frac{7}{8}$-inch side equally reinforced with four wires of $\frac{3}{16}$-inch diameter were subjected to a direct tension, and Consideré measured during the loading the elongation of the reinforcement as well as of the mortar. The experiment proved that the elongations were in all cases practically the same. By means of the modulus of elasticity of the reinforcement, together with the measured elongation, the part of the tensile force taken up by the iron could be calculated, and the figure resulting from the remainder of the tensile force divided by the contents of the cross-section of the concrete indicated the tension of the mortar, to which was added its elongation.

In summarising the foregoing results one cannot but recognise the fact, so important to the comprehension of the statical co-operation of both materials, that concrete, if connected with iron, is capable of great elongations; from a certain elongation, however, the strain in the concrete will not further increase. The greatest elongation of the concrete is $\frac{1}{24}$-inch to the yard, equal to a tensile strength of 13 tons per square inch of the iron.

(Consideré puts the tensile strength of concrete at 140 lbs. per square inch.

The theoretical investigation of ferro-concrete structures has also shown that the position of embedded iron in the concrete cannot be arbitrary, if the really existing tension be in accordance with the results of theoretical investigations. To satisfy these results it is evident the greatest care must be taken and the greatest skill exercised in mixing, filling and ramming the concrete so that the several parts of the structure may satisfy the theoretical conditions.

The choice of iron for reinforced concrete is most important, because the iron has to take up the tensile stress which is so dangerous to the concrete.

The iron is usually chosen from those samples which are easily obtainable, viz. rod malleable iron, such as O iron, T iron, + iron, □ iron.

Considerable economy will be effected by the judicious selection of material—*i.e.* iron or steel. At first engineers were restricted to iron alone, but at the present day steel is added to the selection, and since the tensile strength of steel is much greater than that of iron it is evident that the cross section, when steel is used, can be less than when iron is used. Softened steel is now used by most concrete-builders.

Where the concrete is only in moderate tension, iron may be used in the reinforcement; but in a structure which will have to carry a very heavy load steel should invariably be employed. A French engineer who has conducted experiments in ferro-concrete with great success, and to whom all concrete-builders are indebted for his valuable deductions, lays it down that where steel replaces iron the cross section can be diminished by one-tenth.

The shaping of the iron must be done on the site of the work, both in the cold state and heated state. A field forge will be found convenient for this purpose on account of its portability.

If columns are passing through and supporting different floors, the round irons in the columns are fitted at the ends with coupling boxes to which successive girders or bressummers are attached. If great strength is required, as, for instance, in reservoirs, then the irons must be united by welding.

Engineer Coignet, the builder of the Château d'Eau at the World's Fair in Paris, did the welding by high-volted electricity.

Quick-setting cements are rarely used in armoured concrete. Many builders will at first sight think that these are the cements which should offer an advantage, because supporting timbering can be removed at an early date; but quick-setting cement is weak from a liability to crack, and therefore unsuitable. Further, in using quick-setting cement only small quantities of concrete can be prepared. It is therefore evident that slow-setting cement has a double advantage as a binding material. It is stronger, and can be prepared and used in large quantities, which is essential on external works.

The sand to be used in concrete should be composed of both coarse and fine material. It need not necessarily be quartz sand; it may contain lime, but, of whatever kind, the sand must be sharp and well washed and be capable of withstanding a heavy crushing force. Sand or grit which contain loam or organic matter should be excluded, as the textures of the grit and sand differ considerably.

I wish to call special attention to our tailings on the Rand. These tailings or slimes are really not the best material for the making of concrete, mostly on account of the fine quartz dust contained in them. Should tailings be used, this fine dust must be removed, either by sifting or washing. It is natural that this fine quartz meal will ball together in the course of mixing, and the fine particles of these balls, which stick together through the water only, cannot be covered with cement. Therefore I do not consider it advisable to use the tailings unprepared.

No perfect formulæ can be given for settling the proportions of the mixture. Therefore the only way to decide on this point is to conduct experiments, but as experiments entail expense, they can as a general rule only be resorted to where extensive works are being executed.

In order to settle the proportions it is necessary to determine the hollow space between the screened material. To do this fill a measure of known capacity with the material, then add water until level with the surface of the material. The quantity of water so added will consequently equal the hollow spaces.

As an example, the filled space is found to be 0.525 cubic yards and the hollow space 0.475 cubic yards.

The hollow space must now be filled with the binding mortar. The greatest skill and care must be brought to bear on the mixing of this mortar, especially as to the selection of the most suitable proportions (*i.e.* cement to sand).

Consideré has deduced from his experiments on the setting of concrete both in air and under water the following interesting facts:—In the case of concrete under water the particles of the concrete continue to expand for a period of over three years, and this expansion exceeds the expansion of iron. Consequently the iron retards the expansion of the concrete; this retardation causes the appearance of compression marks in the concrete, which are greatest close to the iron, and diminish as the distance from the iron increases. Thus in ferro-concrete setting under water there exist artificial forces, which elongate the iron and compress the concrete. These artificial forces have a beneficial effect so far as the strength of the structure is concerned, for the great danger to the concrete lies in the tensile stress caused by the load.

Concrete setting in air behaves in an entirely different manner, for the particles of the mortar contract. The contracting force will evidently be equal to a tensile force sufficient to maintain the concrete in its original dimensions; but this force continually increases during a period of three years. The force preventing the concrete from contracting increases as the cross-section of the iron increases, because the resulting force obtained from the composition of the resistance to compression of the iron and the force obtained from the tensile stress of the concrete while contracting will more nearly balance each other. And as the load causes a tensile stress in the under-side of the iron, and the contracting force of the concrete causes a compressive force, these two forces tend to neutralise each other. But as the force caused by the contraction of the concrete acts as well on the upper surface of the iron, when the iron is of the full depth of the concrete, as in floor-joists, it brings the iron into a very great state of compression at its upper edge; so that the good this force does the bottom edge of the iron is counteracted by the undue compression it causes in the upper edge.

Now it is evident that if the cross section of the iron be small and the contracting force of the concrete be great enough a fracture may occur, because the compression in the iron caused by the contracting force of the concrete, added to the compressive force caused by the weight, may give a resultant sufficient to neutralise the iron.

Also, if the cross-section of the iron be great the iron will successfully resist the contracting force of the concrete. A tension may therefore be caused in the concrete which will exceed the limit, with the result that a fracture occurs.

The tendency to fracture is removed by using a suitable quantity of binding mortar and attending to proportions of cement to sand. It is therefore necessary to take the proportions of cement and sand to suit the strains which the concrete will have to withstand and the conditions it is expected to fulfil.

For piles, caissons, tubes, blocks, &c., which first have to set in air and then be deposited under water, a continual sprinkling and a protection against the sun and wind after manufacture are to be recommended.

The strength of the different concretes depends on the following conditions and proportions of materials:—Amount of water used, temperature, mixing and ramming. Even by use of suitable materials an inferior concrete will be obtained, if the mixture is not properly treated.

Such concrete will not equal in strength that deduced by theory and will not be equal to its requirements as obtained from calculations. It is therefore a danger to the whole structure.

In many cases faulty concrete is due to ignorance of its preparation and use. It is therefore evident that concrete structures should be executed by skilful and experienced workmen. Also the closest supervision is necessary during the mixing, filling and ramming. The latter is accentuated by the fact that it is not always possible to test many parts of the concrete after it has been fixed in position.

Concrete should be prepared on the site so as to obviate cartage, which is detrimental. This is evident on considering that the specific gravity of the sand is greater than that of the cement, and, as a consequence, through the jarring the cement comes to the top and the sand sinks to the bottom. The proper quantity to be added is defined by chemists as the lowest quantity necessary to bring to setting all the cement in the mixture, as it is just necessary to bring into proximity the particles of cement, sand and other material.

But that the presence of superfluous water cannot prevent concrete from setting is evidenced by the many foundations which have been laid under water.

The ramming should expel all air and water. The mixture should be uniform when finished in position (*i.e.* the crushed stone or brick or whatever is used should be tied together by the same amount of mortar throughout).

The evaporation of water during the working and the absorption by supporting timbers makes it necessary to add more water than the chemical limit.

The well-known rule, ram the concrete until the water appears on the surface, shows that this rule anticipates an excessive quantity of water. There is, however, a limit to the amount of water to be added in mixing the concrete, for beyond a certain point of saturation ramming will be useless. Therefore the water which cannot be driven out of the concrete by ramming evaporates as the concrete sets, consequently leaving the concrete porous, which is most undesirable.

Concretes of two different consistencies are obtained according to the quantity and proportion of water used.

I. Concrete to which only sufficient water has been added to enable its being moulded into a ball by the hand.

II. Concrete to which more water has been added than in the former case and which presents a soft and plastic appearance after ramming.

No rule can be given whereby the quantity of water may be calculated for every possible case, because the degree of moisture in the sand is not always the same.

However, in case I. the percentage may be taken approximately at 4 to 5 per cent. For case II. double the amount will be required at 7 to 10 per cent.

Concrete of the proportion of case II. is to be recommended for reinforced work because it accommodates itself to the iron; it also clings more tenaciously to the iron than concrete moistened as case I.

Thus for armoured concrete soft concrete must be always used; but for ordinary concretework both kinds must be considered. The selection will be determined by the particular case under consideration. It is perhaps well to notice that concrete mixed by machinery is shown by experiments to be superior to that mixed by manual labour.

Want of time prohibits a detailed account of the several building systems. I shall give a brief description of the strength of ferro-concrete.

If a body is acted on by external forces molecular movements result, and consequently each particle of the body is distorted in form. There are in general in concrete three forces, viz. tensile, compressive and shearing forces.

The materials of which reinforced concrete is composed, viz. concrete proper and iron, differ on several points as to their suitability to withstand particular forces. Iron is suited to withstand either a compressive force or a tensile force, or a force which produces a shearing stress. Cement concrete offers a high resistance to crushing, but it is not calculated to resist to any great extent either a shearing or a tensile force. The force required to rupture concrete when acting in tension is equal to one-tenth the force required to crush the same concrete.

Therefore the fundamental rule to keep before the mind is to augment the strength of the concrete by a metallic skeleton in those places where tensile and shearing stresses are to be expected.

It is therefore evident that concrete requires reinforcement only when the tensile and shearing forces produce in the concrete their corresponding stresses in excess of what the concrete can withstand.

Concrete possesses several advantages over both natural and artificial stone, both as regards its more ready adaptability to various shapes and the small cost of making moulds to secure these shapes. In the case of stone it requires the skill of the mason and sculptor to secure favourable results. These are all elements which go to increase the cost of the work. Also it is sometimes impossible to secure competent mechanics. When concrete is used the mould is easily and cheaply made. Also the ratio of skilled to unskilled labour when concrete is used will be much less than the ratio of the same elements in the case of stone or iron.

Further, it must be considered that in consequence of the strong and close interlocking of all parts of a ferro-concrete structure more factors take part in the bearing of the load than generally appears in the calculations and any of the other building systems manifest it.

When examining the iron bridges a slight sagging of the whole structure is noticeable, but this is of very little importance as the sagging is the product of many and infinitely small elastic displacements of the single parts and cross sections; it is thus not necessary that one or more faults in the cross section of a girder, badly rivetted joint, &c., are observed in the sagging, which in most cases is less than the figure obtained by calculation. Therefore a careful examination of the whole structure besides the statical control cannot be dispensed with. The sagging in reinforced concrete structures need not be taken into account, as insufficient dimensions in regard to shearing and adhesion strains do not influence the sagging.

As with all other structures whether built of iron, brick or wood, the engineer should carefully supervise it, also in the case of a reinforced concrete building I regard a technical supervision as imperative. In connection therewith the testing of the building materials to be used comprise the usual iron and cement tests and tests of the strength of the whole concrete cubes have firstly to be proceeded with; secondly, attention has to be paid to the method of working, to the supervision of the composition of mixture of the cement, sand and grit, of the proper treatment of the concrete, the ramming, strong scaffolding and centreing, exact keeping of the dimensions, and generally all such precautions to insure first-class workmanship. Only by these measures can carelessness in the execution of reinforced concrete structures be prevented, which under certain circumstances might lead to serious accidents, thereby discrediting this new building system.

Everyone familiar with this new building system will admit that there exist a great many reinforced concrete constructions which give full satisfaction as to the purposes they are erected for, and still exercise that resistance if the limit of the strain is reached or even exceeded for which the structures are calculated. Considering such splendid qualities as proved with existing structures, it should cause no difficulty to erect structures of other dimensions and with complicated stresses, if the formula which is employed for the calculation of the dimensions of the proved structures was generalised and extended to the new contemplated purpose, and if the new fundamental materials, concrete and iron, were of the same quality and were worked with the same carefulness.

While iron, wood, brick structures, &c., are liable to decay, therefore requiring frequent overhauling, reinforced concrete constructions are gaining in strength in the course of time. Not only do these buildings resist elements, as moisture, temperature, &c., but also the most chemical reactions have no effect on them. The iron embedded in the Portland cement concrete remains perpetually unaltered, and ferro-concrete construction can be considered as practically indestructible by any causes.

Reinforced concrete, undoubtedly, is rapidly coming to the front in other countries, and although the price of cement prevents it being extensively used at the present time in South Africa, yet the day is not far distant when cement will be manufactured within a hundred miles of Johannesburg and placed on the market at half the present price. Then, with cheap material, we may expect to see the combination of metal and concrete introduced into such engineering works as bridges, dams, weirs, &c.

In conclusion, I wish to express the hope of having an opportunity of following this paper up with one in which I desire to only touch questions concerning the mining industry, and prove to you that concrete or reinforced concrete could play an important part in the outlining of shafts, headgears, cyanide tanks, dams, &c.

RESTORATION OF CHURCHES.

A MEETING of the Society for the Protection of Ancient Buildings was held on Wednesday. Unusual interest was added to the proceedings by the reading of a paper by Mr. Thomas Hardy, the novelist, who was, as our readers know, trained as an architect.

In the course of it, Mr. Hardy said that it might be true that our more intelligent architects now knew the better way, and that damage was limited largely to minor buildings and to obscure places. But continue it did, despite the efforts of that Society, nor did it seem ever likely to stop till all tampering with chronicles in stone was forbidden by law, and all operations bearing on their repair permitted only under the eyes of properly qualified inspectors.

The difficulty which they encountered on the threshold in respect of church conservation was the fact that the building was held in two contradictory lights, and was required for two incompatible purposes. To the incumbent the church was a workshop or laboratory; to the antiquary it was a relic. To the parish it was a utility, to the outsider it was a luxury. How could they unite these incompatibles? The author went on to refer to wantonness in bodily pulling down an old church that a more stylish one might be erected, the shifting of old windows and other details irregularly spaced, and to "monumental puss-in-the-corner." *Apropos* of this he said that one would like to know if any note had been kept of the original position of Milton's monument in Cripplegate Church, which, he believed, had been moved more than once, and if the position of his rifled grave was now known. Continuing, Mr. Hardy, after dwelling upon the mistakes of builders and the abuses in the rehanging of bells, asked why the old sets of chimes had been removed from nearly all the country churches. The midnight wayfarer, in passing along the sleeping village or town, was cheered by the outburst of a stumbling tune, which possessed the added charm of being heeded probably by no ear but his own. But one might go half across England and hear no chimes at midnight now.

Another abuse of ecclesiastical fabrics was that arising from the fixing of Christmas decorations. The battalion of young ladies to whom the decking with holly and ivy was usually entrusted seemed to be possessed with the fixed idea that nails might be driven not only into old oak and into the joints of the masonry, but into the freestone itself, if one only hit hard enough. He lately found a fifteenth-century arch to have suffered more damage during the last twenty years from this cause than during the previous 500 of its existence. Restoration was practically objectionable and well-nigh impossible, and, moreover, was fatal to human interest. Some might be of a different opinion; but he thought that the damage done to the sentiment of association by replacement, by the rupture of continuity, was mainly what made the enormous loss the country had sustained from its seventy years of church restoration so tragic and deplorable. The protection of an ancient edifice against renewal in fresh materials was, in fact, even more of a social—he might say humane—duty than an æsthetic one; it was the preservation of memories, history, fellowship, fraternities.

By a curious irony, the parts of a church that had suffered the most complete obliteration were those of the closest personal relation. Their duty lay in organising resistance to the enthusiasm for newness of those priests and churchwardens who regarded a church as a sort of villa, to be made convenient and fashionable for the occupiers of the moment.

WALKER ART GALLERY.

THE curator, in his report to the Liverpool Corporation, remarks that as the collection increases in number and importance it becomes more and more difficult to do justice to it, and the need for a large addition to the gallery becomes more pressing. In the rearrangement of the collection some beginnings had been made in the direction of classification; notably the works by Liverpool artists had been brought together with a view to illustrating the scope and style of the local schools. This innovation had met with cordial appreciation on the part of those who take a particular interest in the art history of the city, and already as a result several valuable additions to the collection had been made. It was still far from being adequately representative, and the committee hoped that local collectors may assist in supplying the deficiencies. The additions to the permanent collection during 1905 were not so numerous as in the previous year, but they include several works of great interest and value. In consequence of the much regretted death of Mrs. Rathbone, the pictures bequeathed to the city by the late Alderman Philip H. Rathbone had now been handed over by his executor. Some progress had been made in the important task of investigating the state of the works constituting the permanent collection, with a view to their conservation. A number of frames had been repaired and regilded, many of the pictures had been supplied with descriptive lettering, and for the sculpture, &c., more suitable pedestals had been provided. The negotiations with the trustees of the Royal Institution, in reference to the "Roscoe" collection of works by old masters, had proceeded to an agreement (arrived at early in 1906) to the effect that the Corporation shall apply in its next Omnibus Bill for power to take over the collection from the trustees on such terms, mutually agreed upon, as may justify the Corporation in incurring the expenditure necessary for the conservation and proper display of the pictures. The autumn exhibition was open during ninety-five days and seventy-two evenings from September 18, 1905, to January 6, 1906. The exhibition was widely representative of the best art movements of the day, and was generally allowed to be of more than ordinary interest and attractiveness. The attendance of the public (both as regards single admissions and season tickets) was larger than in 1904, the total being 55,313, and 3,765 season-ticket holders. The number of works shown, according to the catalogue, was 1,989, of which 247 were sold, the catalogue prices of which amounted to 6,173*l*. During the year the total number of persons who passed through the turnstiles to the gallery was 350,769, or a daily average of 1,008. The attendances of students during the year numbered 2,191.

IRON AND STEEL INSTITUTE.

A JOINT meeting of members of the American Institute of Mining Engineers and of the Iron and Steel Institute will be held in London on July 24, 25 and 26. The following papers have been offered for reading:—(1) "Machine Moulding," by P. Bonvillain (Paris); (2) "Tempering and Cutting Tests of High Speed Tool Steels," by Dr. H. C. H. Carpenter (Manchester); (3) "The Nodulising and Desulphurisation of Fine Iron Ores," by A. Ladd Colby (New York); (4) "Belgian Practice in Large Gas Engines," by Professor H. Hubert (Liège); (5) "Electric Steel Smelting," by E. C. Ibbotson (Sheffield); (6) "Different Methods of Blast Furnace Refrigeration and their Power Requirements," by J. E. Johnson, jun. (Longdale, Virginia, U.S.A.); (7) "The Crystallography of Iron," by F. Osmond (Paris); (8) "German Practice in large Gas Engines," by K. Reinhardt (Dortmund); (9) "The Development of the Roe Puddling Process," by James P. Roe (Pottstown, Pa., U.S.A.); (10) "The Constitution of Iron Carbon Alloys," by Albert Sauveur (Cambridge, Mass., U.S.A.); (11) "The Influence of Silicon and Graphite on the Open Hearth Process," by Alex. S. Thomas (Cardiff); and (12) "British Practice in Large Gas Engines," by Tom Westgarth (Middlesbrough). At the meeting of the American Institute of Mining Engineers several important papers dealing with iron and steel will be submitted, the list including the following:—(1) "Comparison of American and European Rail Specifications," by A. Ladd Colby (New York); (2) "Piping and Segregation in Steel Ingots," by H. M. Howe (New York); (3) "The Effect of Low Temperature on the Recovery of Steel from Overstrain," by E. J. McCaustland (Ithaca); and (4) "Improvements in Rolling Iron and Steel," by James E. York (New York).

ETRUSCAN ART.

IN art the Etruscans were evident imitators of the Greeks, and when it advanced in Greece, and not till then, did it improve in Etruria; sometimes not till after a considerable period, though the Greeks settled in the country, who worked for them, and the constant intercourse with Greece gave the Etruscans facilities for becoming acquainted with the progress of their instructors. The vases of the earliest Greek styles were, therefore, the first introduced into Etruria, and the others followed in succession as art advanced in Greece; for the Etruscans had no real art of their own creating, though they had the good taste to appreciate and patronise it. They were skilful workmen and a clever, imitative people; and they even learnt from the Greeks in their employ to reproduce successfully what they admired. They had an early predilection for works in clay, and this led them by degrees to cast various objects in bronze and even statues, but marble figures were rarely attempted by them. But in all branches of art it was evident whence that art was derived; Greek taste always pervaded it, their bas-reliefs, meat utensils and ornaments as well as vases proclaimed to what their excellence was attributable. It is true that in their ornaments some peculiarities appear which differ from anything Greek, and the inscriptions in Etruscan show the mirrors and other bronze works and even statues to be their own; but still though the names of the gods are Etruscan, the mythology is Greek. Certain mannerisms such as the position of the hands of the figures and other peculiarities in the paintings also testify to their being the work of native artists. Whenever there is any real attempt at architecture in the columns or the sculptured fronts the style is Greek. The doorways of the tombs, which are often false and recessed, like those of the tombs about the pyramids of Memphis, are evidently from an Egyptian model, though the Etruscans, misunderstanding the object of the sloping line of Egyptian monuments, have made the inner faces of the jamb itself incline inwards as well as the external edges. This is a mistake committed also by the Greeks. Their round shields, their helmets, greaves and other arms offensive and defensive are also Greek, as are their lyres and arrows, musical instruments, their amusements indoors and out of the house, their feasts and their chariot races, their jewellery and other works of taste.

Correspondence

Association Evening School.

SIR,—May I call your attention to the statement made under "Notes and Comments" in your issue of June 15? It is there stated that the evening studio of the Association is being closed. This is by no means the case. The Council has for some time past had under consideration the advisability of amalgamating the evening studio (formerly conducted by Mr. W. G. B. Lewis) with the evening continuation school. With the two schools under separate heads there was much overlapping, and from a financial as well as an educational point of view the new scheme will be advantageous to all students, as provision will be made not only for students who have passed through the day school, but for those students who are engaged in offices during the daytime, as well as for those who wish to prepare for the R.I.B.A. examinations, or are desirous of taking up separate subjects in design or construction. The new arrangement will provide evening instruction which will supply the wants of all grades of students without disturbing the smooth working of the scheme of continuous study, and it was evident to the Council that the time had arrived when the studio system should be codified into one scheme.—Yours faithfully,

H. TANNER, JUN., Hon. Secretary.

June 20, 1906.

GENERAL.

Mr. H. A. Grueber, F.S.A., has been appointed to be Keeper of the Department of Coins and Medals in the British Museum, in the room of Mr. B. V. Head, who is retiring from the position at the end of the month under the age-limit rule. Mr. Grueber has served in the Department for over forty years, and since 1893 has been the assistant keeper. He is honorary secretary of the Numismatic Society.

Mr. W. D. Church, senior partner of Messrs. Church & Son, architects, of South Place, Finsbury, died recently at Stoke Newington. Mr. Church was well known in Nonconformist circles, and was the architect of several churches in London, and from his designs the extension of the Memorial Hall Buildings in Farringdon Street were erected.

The Edinburgh and District Water Trustees have remitted "to the works committee to consider the terms and conditions of the engineer's appointment, and especially whether a fixed salary should now be paid for the engineer's services, to include all payments by way of commissions on contract work, or for extra advice, or assistance, or otherwise, and to report."

The Peterborough Cathedral restoration committee are about to undertake the repair of the north transept on the advice of their architect, Mr. G. F. Bodley, R.A. The north wall leans a good deal, but Mr. Bodley thinks the settlement took place a considerable time ago and that the masonry has now got its bearing. The cracks and displacements require to be carefully treated. Mr. Bodley says:—"The building must obviously be accepted as an ancient one, and all the old work that it is possible to retain should be retained. But all that adds to the durability of the fabric and to its greater preservation should be certainly carried out as soon as is possible, and any glaring deficiency should be made good."

The Parks and Galleries Committee of the Glasgow Corporation have by a majority declined a request by the Corporation of Toronto for the loan of the Whistler "Carlyle" for exhibition at the Canadian National Exhibition, which is to be held at Toronto at the end of August.

The Aberdeen Town Council have agreed to a scheme for the widening of Union Bridge at a cost of 9,500*l.*

All Persons applying for leave to use the camera in the British Museum are now charged 2*s.* for one negative, while for more than one the fee, to put it in the official phraseology, is a time fee, *viz.* 2*s.* for the first hour or part thereof, and 1*s.* for each succeeding hour or part thereof in the day.

The United States House of Representatives have decided on the adoption of the lock type for the Panama Canal. The Civil Appropriation Bill appropriates 5,000,000*l.* for the purpose of continuing work on the canal.

The Commons and Footpaths' Preservation Society have during the last two years dealt with 1,217 cases, 324 of which affected commons and open spaces, 816 rights of way, and 77 were in regard to Bills before Parliament dealing with commons and open spaces in which they came to an agreement with the promoters. Of the total number of cases nineteen came before the Law Courts, but only eight resulted in favour of the public and eleven against.

Professor Legros is to be entertained at dinner by former pupils of the Slade School at Princes Restaurant on July 9. Mr. William Strang, A.R.A., is the chairman, and Mr. Harrington Mann is the secretary.

A Meeting of the Council of the Queen Victoria Memorial school for the sons of Scottish soldiers and sailors was held at Edinburgh on Monday. It was reported that 44,117*l.* had been subscribed, and that after conferences with the War Office plans had been adopted and tenders received, so that the necessary steps for proceeding with the erection of the building at Dunblane would now be taken.

The Memorial to commemorate the services rendered to archæology by Dr. A. J. Evans is to take the form of his portrait, painted by Sir W. B. Richmond, R.A., and deposited in the Ashmolean Museum, of which Dr. Evans has been keeper for nearly a quarter of a century. A general committee has been formed, of which Dr. G. A. Macmillan is hon. treasurer and Mr. D. G. Hogarth and Mr. C. F. Bell are the hon. secretaries.

A Society of the Friends of Art in Manchester is to be formed on the same lines as the National Art Collections Fund of London and the Société des Amis du Louvre of Paris.

The Senekal Town Council, South Africa, seek an official for the combined posts of town engineer, sanitary inspector, market assistant and general municipal handy man. The duties include attending to all repairs of whatever sort, to superintend the laying of water-pipes, fix up new taps and do all the municipal engineering work. The salary offered is 12*l.* 10*s.* per month.

The Royal Dublin Fusiliers' memorial fund committee hope to be in a position next week to order the commencement of the work. The memorial will take the form of an arch, which it has been decided shall be modelled upon that of the Arch of Titus. It will consist of Irish material and workmanship, and will be entrusted to Irish contractors. Sir Thomas Drew, R.H.A., has prepared the plans.

The Glasgow Architectural Association held their annual business meeting last week. The membership has increased by twenty-three during the session, and four gentlemen were nominated for election. Office-bearers for the ensuing session were appointed, with the following results:—Mr. Lochhead was re-elected president. As vice-presidents, Mr. James M'Kissack and Mr. Alex. Wingate were re-elected. The honorary secretaries, Mr. Stephen Adam, jun., and Mr. Alan G. M'Naughtan were again appointed. Mr. E. D. Smith was re-elected honorary librarian, and the new Council consists of Messrs. Whitelaw, Blain, Davie, Dewar, Malcolm, Baxter and Wyllie.

The Council of the Society of Arts have awarded the Society's silver medal to the following readers of papers during the session just completed:—Mr. W. F. Mitchell, Dr. William Arthur Aikin, Mr. Leon Gaster, Mr. Walter Garstang, Captain G. S. C. Swinton, Mr. Bernard B. Redwood, Mr. J. B. Millett, Professor Thomas Oliver, Mr. Clayton Beadle, Sir James A. Bourdillon, Dr. George A. Grierson, Colonel Sir Arthur Henry McMahon, the Hon. Rodolphe Lemieux, K.C., the Hon. J. G. Jenkins, Mr. Louis N. Parker, Mr. H. Yates Thompson and Mr. Harry Powell.

A Second Competition, it is understood, will be arranged for the Palace of Peace at The Hague, and which, it is to be hoped, will have a more satisfactory result than the first.

The Competition for the new infirmary at Edmonton is to be restricted to five architects. Mr. Rowland Plumbe will be the assessor. The buildings, when completed, are expected to cost 250,000*l.*

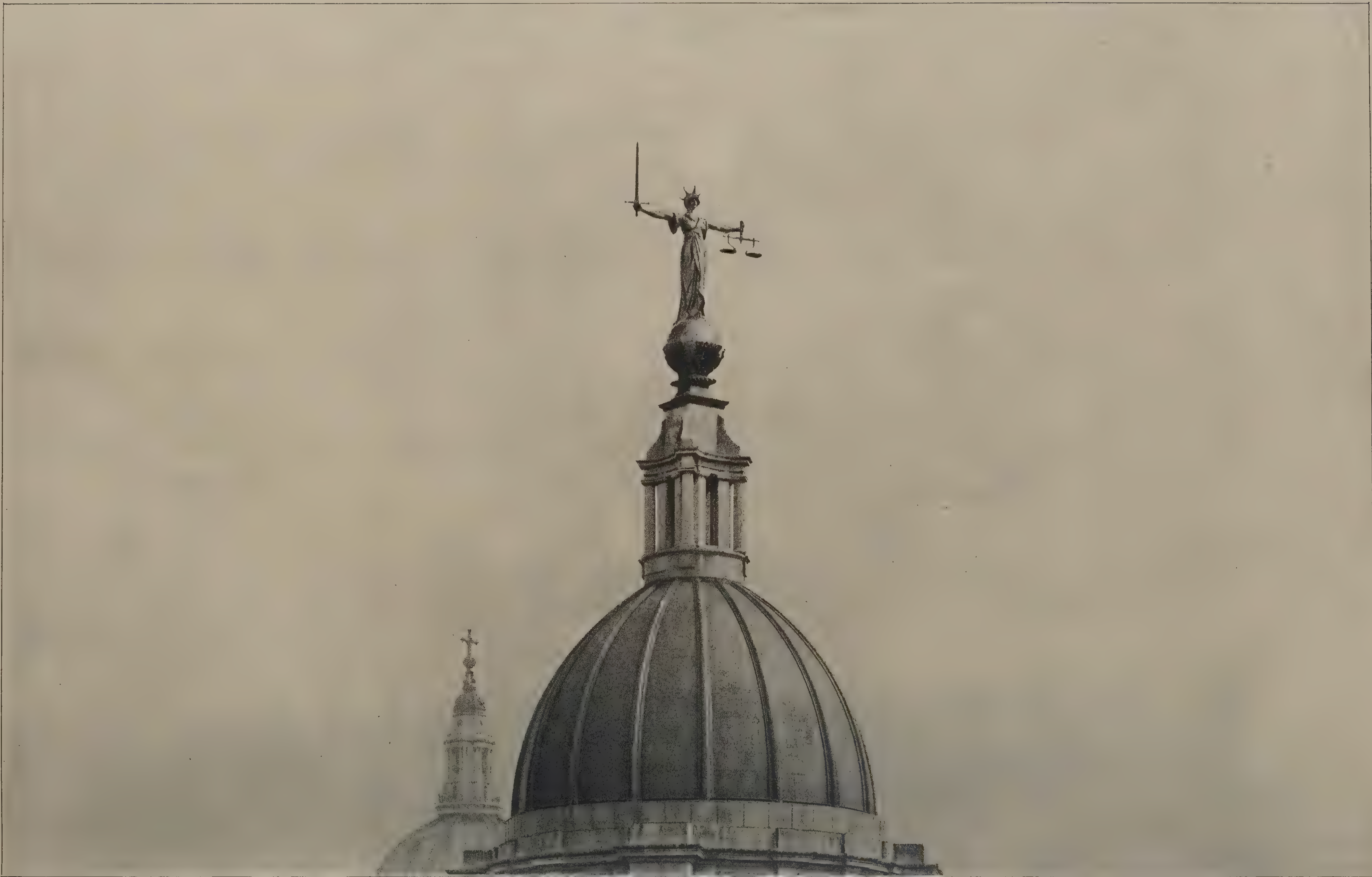
A Drawing by Albert Dürer, which hitherto was unrecognised, has been discovered in one of the collections of the Louvre. The subject is *Christ before Pilate.* It is supposed to have been executed about 1504.

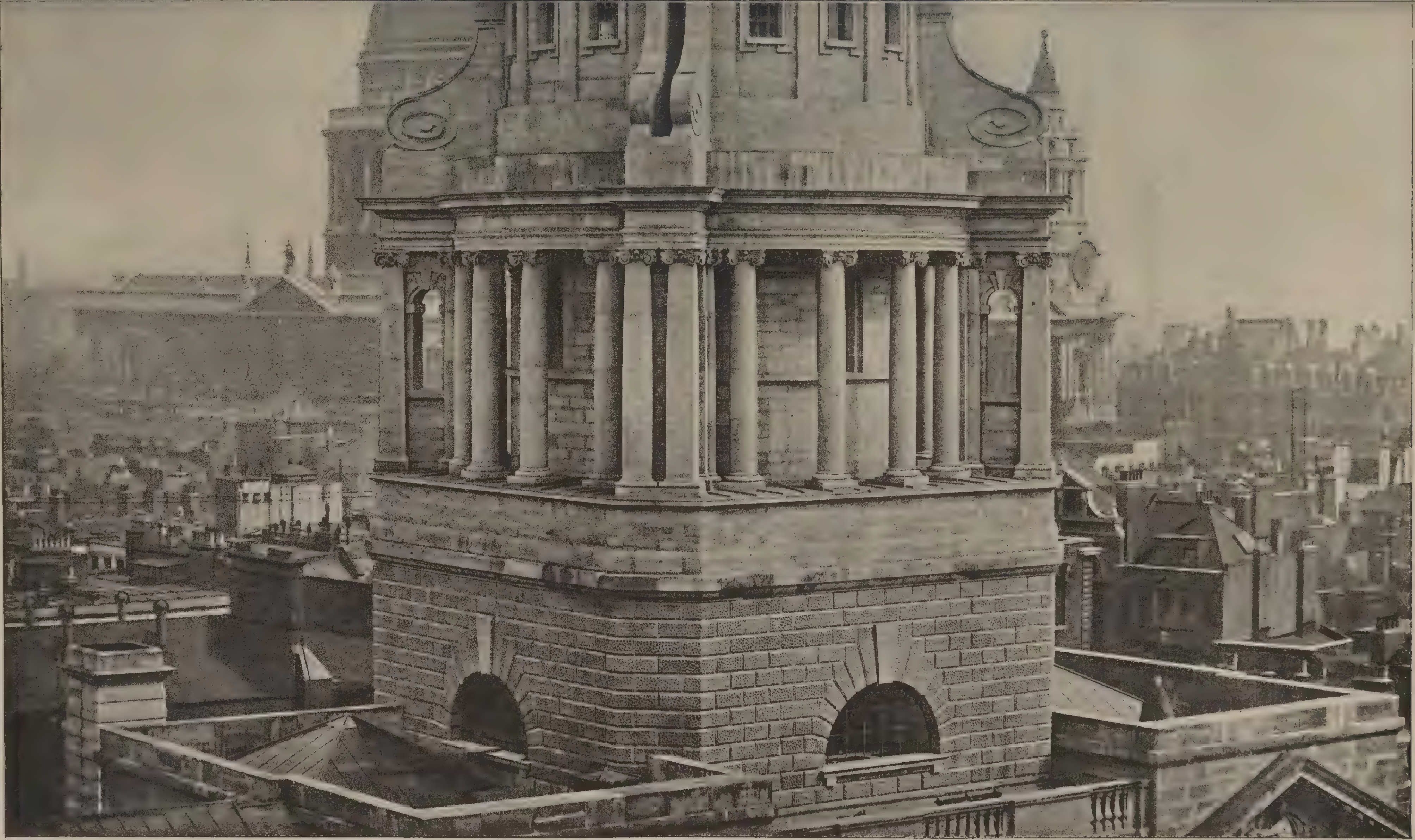
Mr. McKenna, M.P., replying on Tuesday to a question in the House of Commons, stated the sum necessary for the preservation of ancient monuments is voted by Parliament and varies according to the estimated requirements of the year. For 1906-7 the sum inserted in the Estimate for Public Works, &c., Ireland, is 351*l.* The sum applicable to national monuments consists of the income derived from dividends on Consolidated stock held by the Board of Works. For each of the two years to March 31, 1906, the amount of this income was 873*l.* 9*s.* 4*d.* In 1904-5 the expenditure on ancient monuments was 516*l.* 6*s.* 2*d.*, and on national monuments 870*l.* 12*s.*

The Six Communion Cups recently disposed of by the Yarmouth Congregational church, then entered for sale in London and withdrawn, are to return to Yarmouth. From legal documents dated 1733, discovered in the office of a Yarmouth solicitor, it appears that these historical examples of Puritan plate, dating from 1654, are held by trustees as part of the property of the church. The deacons on being apprised of the existence of this deed on Monday decided to repurchase the cups, which had been parted with for about 2,000*l.*

The International Society of Sculptors, Painters and Gravers have decided to devote the next exhibition at the New Gallery, during January, February and March 1907, entirely to the works of members.

The Board of Education of Cincinnati, Ohio, intend to construct a high school building at a cost not exceeding 500,000 dols. The architect will be chosen by competition. First prize will be employment as architect of the building at a compensation of 2 per cent. The Board of Education will furnish its own superintendent. Second, third and fourth prizes will be paid in cash in the sums of 750 dols. 650 dols. and 500 dols.





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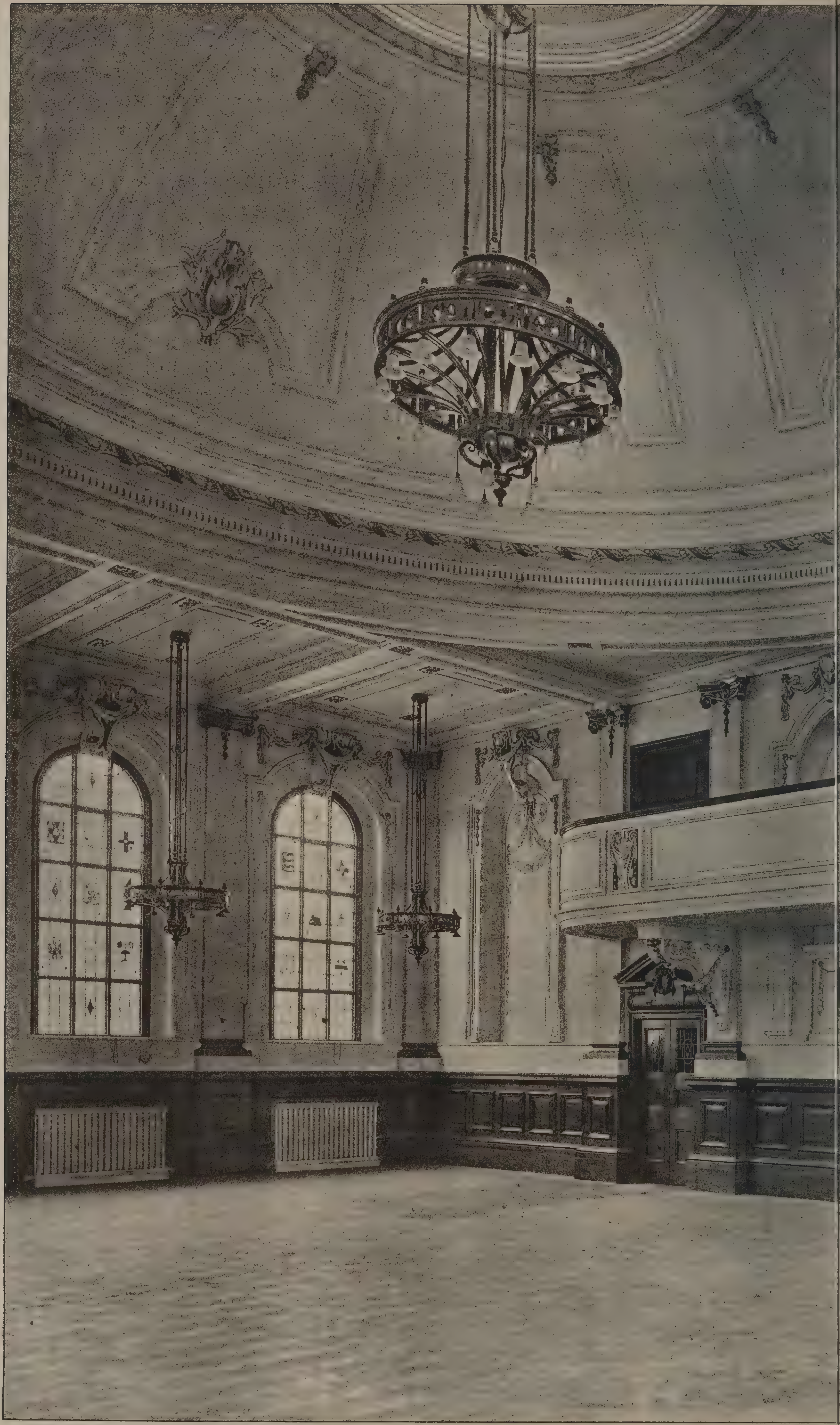
INK PHOTO SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

FIGURE OF "JUSTICE," NEW SESSIONS HOUSE, OLD BAILEY.

E. W. MOUNTFORD, F.R.I.B.A., Architect.



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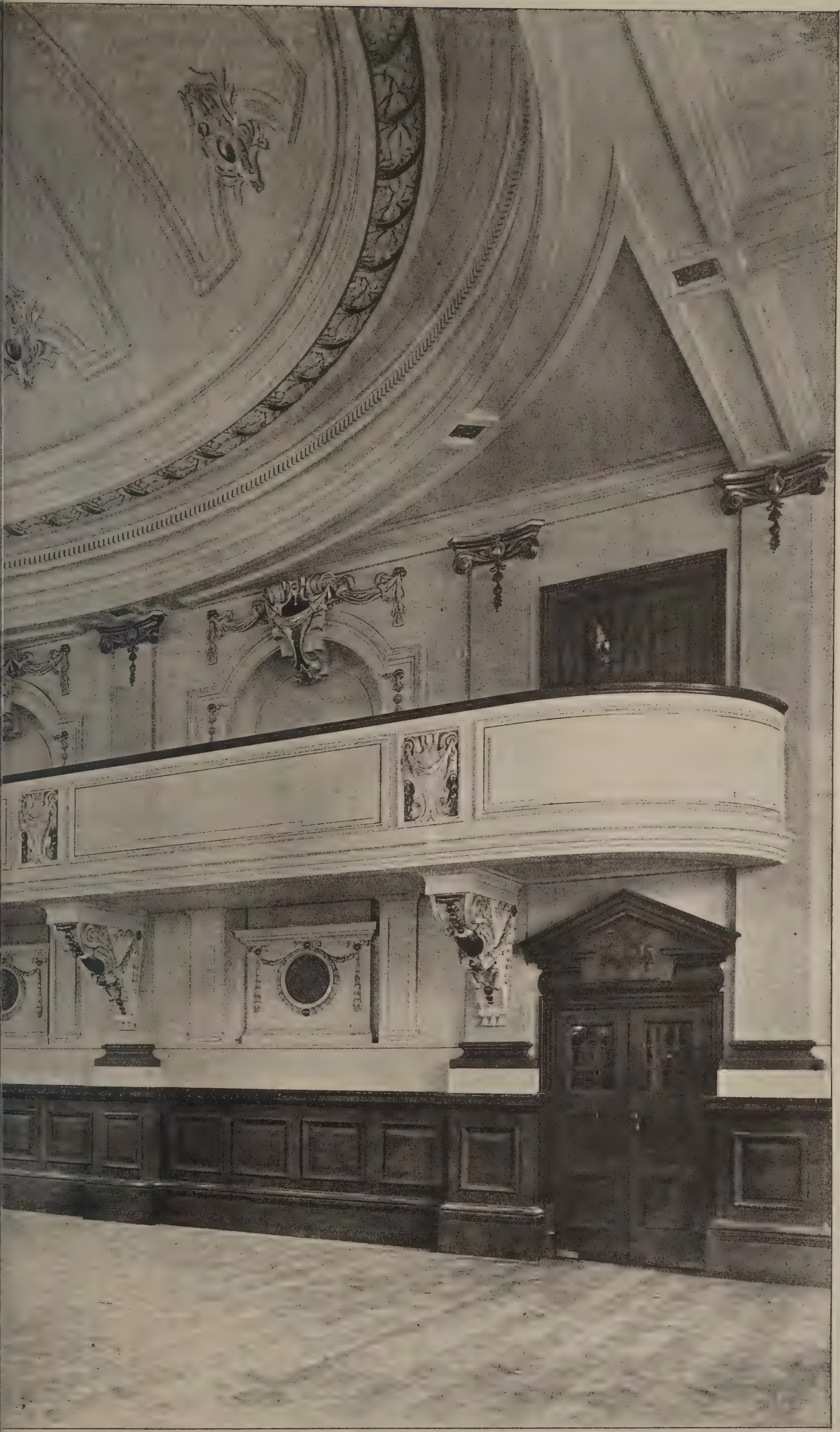
Messrs. ESSEX, NICOL

June 22nd 1906



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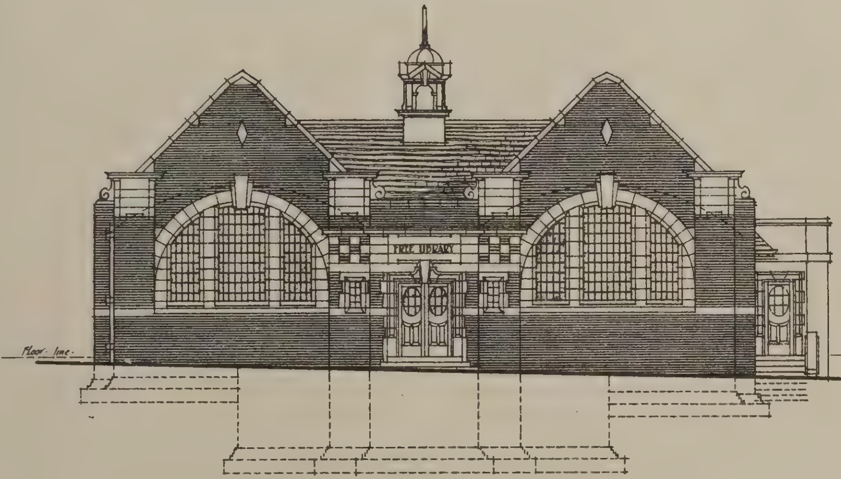
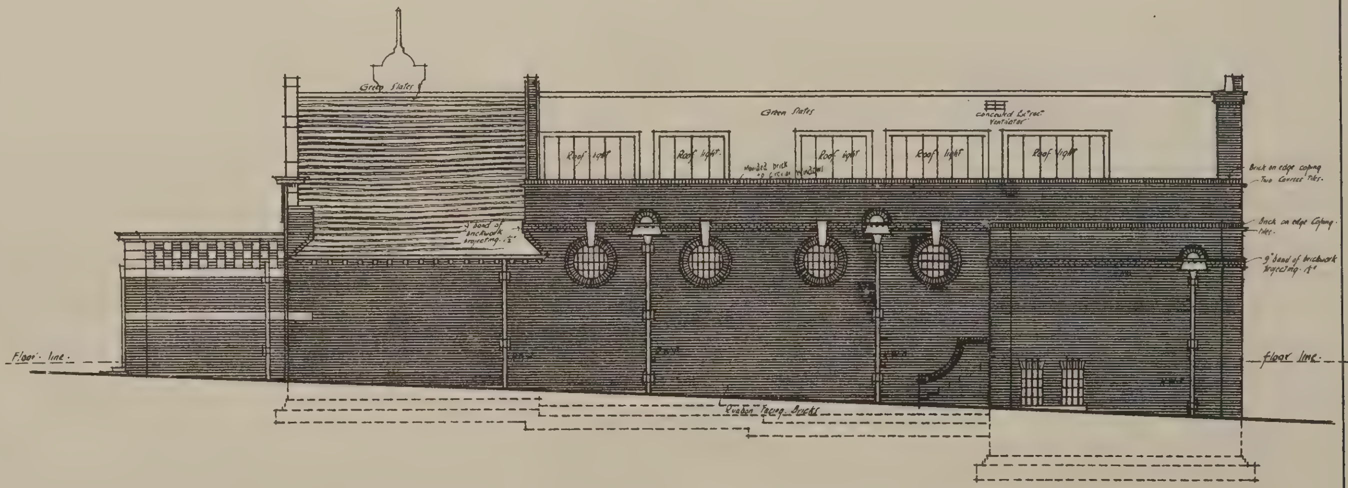
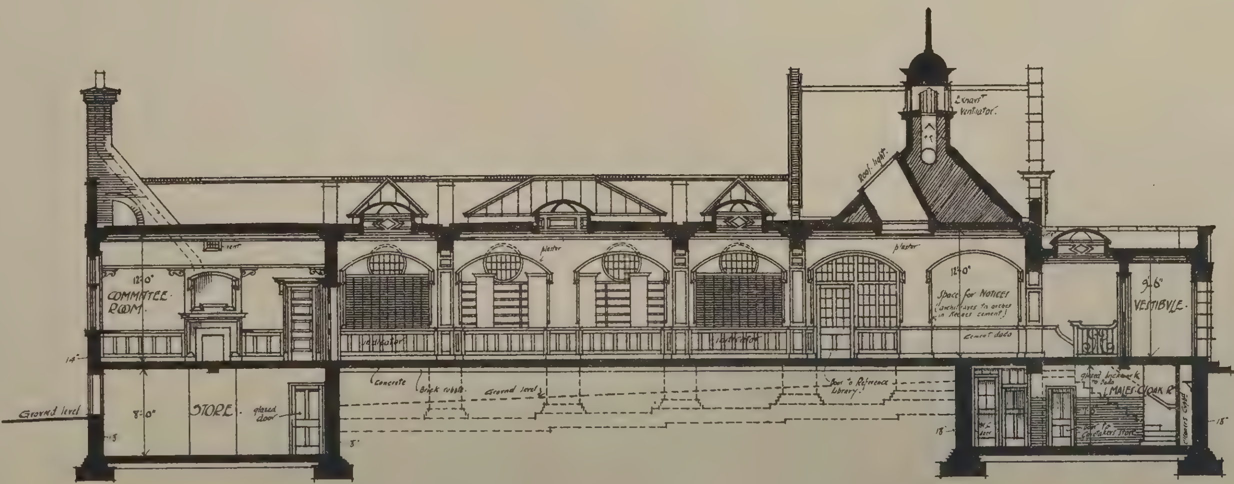


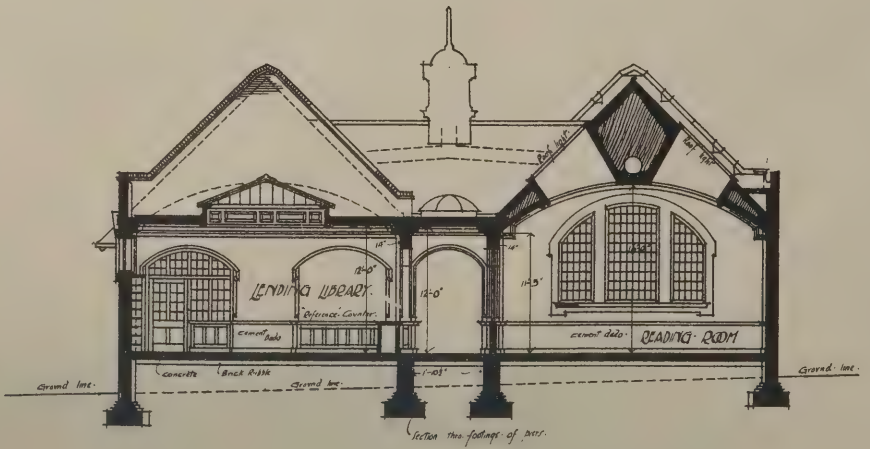
ELEVATION ~ TO ~
FFORDD WYNEDD


Green Slates
Green Slates
Concealed Extract Ventilator
Roof light
Roof light
Roof light
Roof light
Roof light
Moulded brick to circular windows
9" band of brickwork projecting 1½"
Brick on edge coping
Two Courses tiles.
Brick on edge Coping tiles.
9" band of brickwork projecting 1½"
Floor line.
floor line.
Ruabon Facing Bricks

ELEVATION ~ TO ~
CANONRY GARDEN

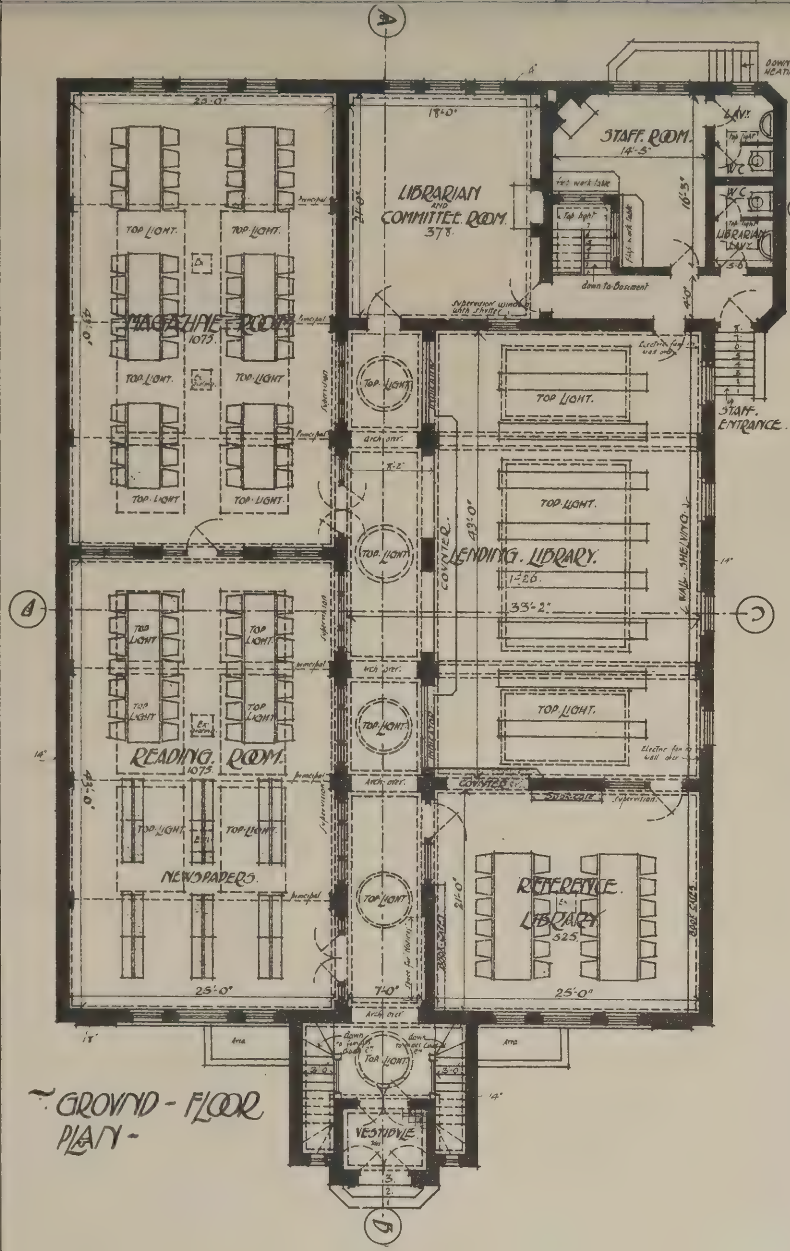


SECTION Ⓐ-Ⓑ

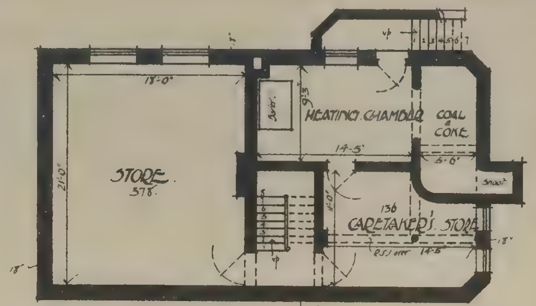


SECTION Ⓒ-Ⓓ

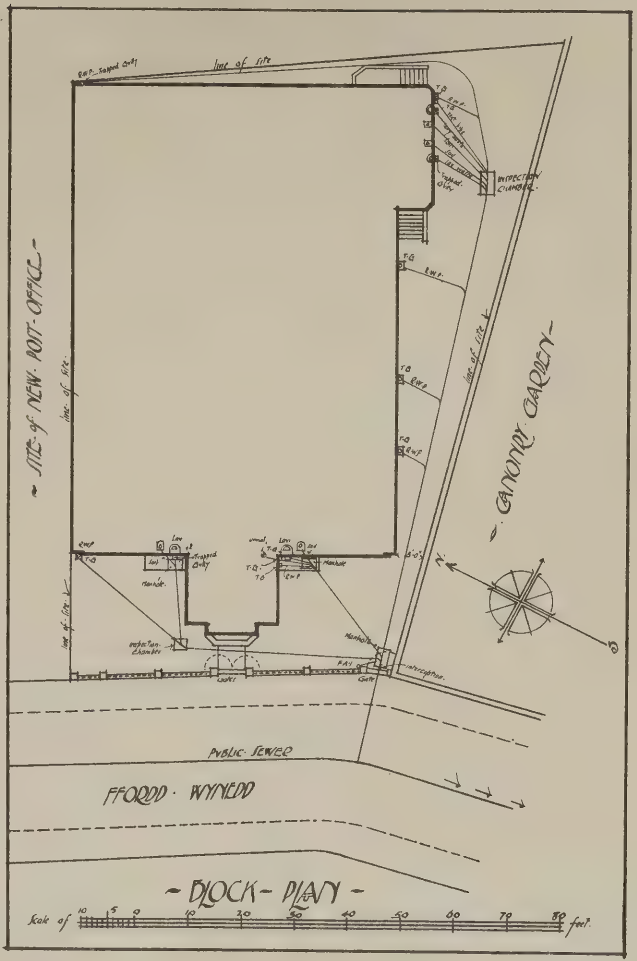
SCALE of 10 5 0 10 20 30 40 50 60 70 80 FEET.



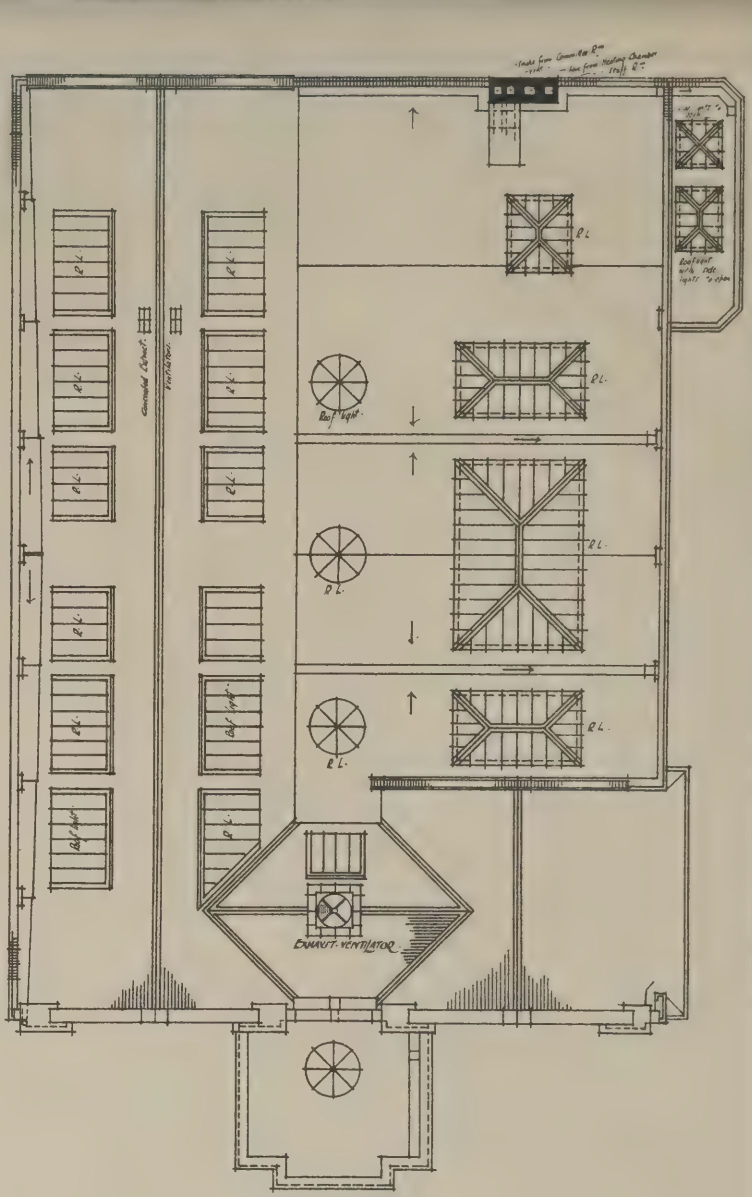
~ GROUND - FLOOR PLAN -



- BASEMENT - PLAN -



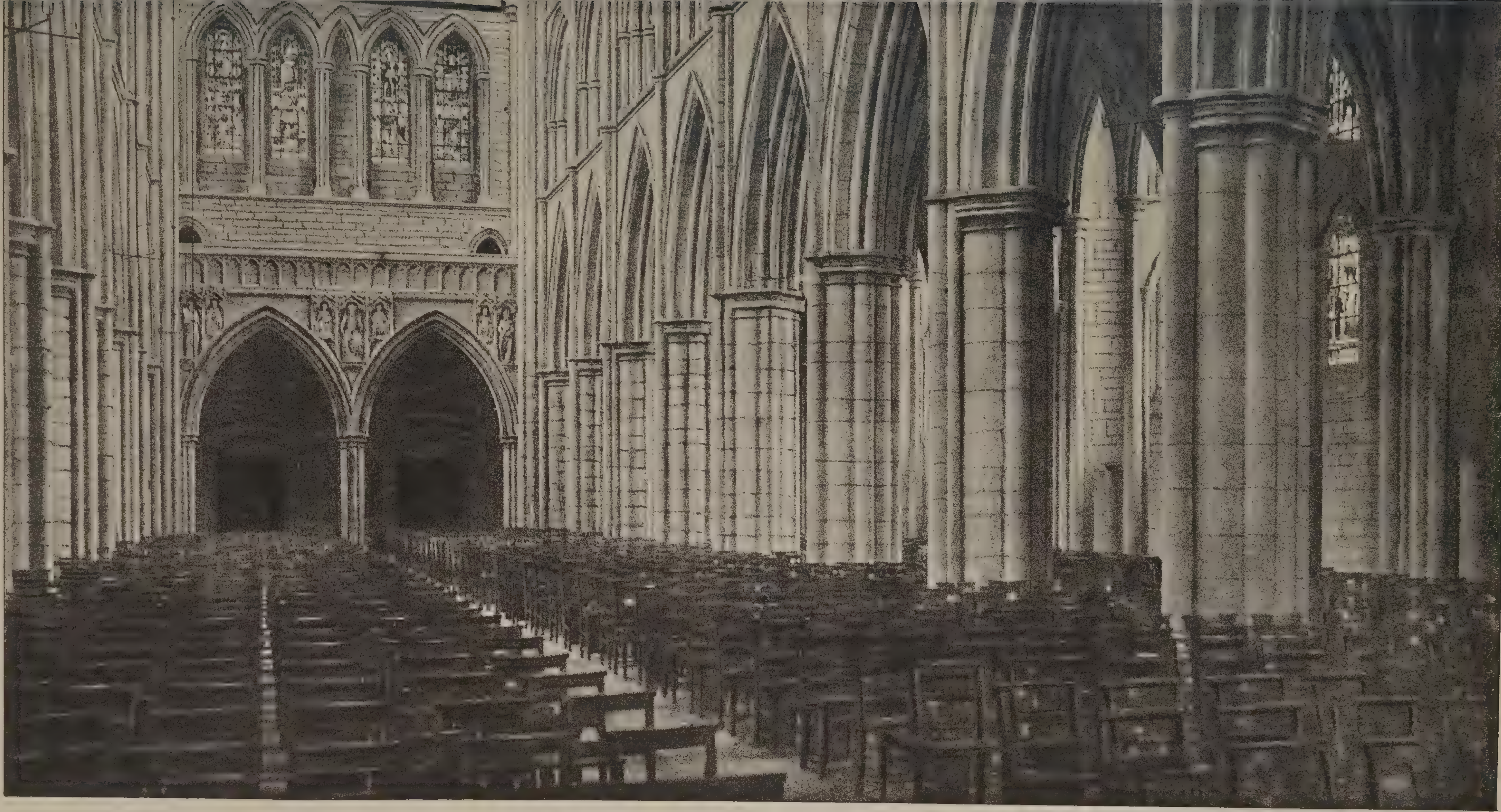
- BLOCK - PLAN -



- ROOF - PLAN -

C·T·ARMSTRONG·
·ARCHITECT·

PHOTO LITHO SPRAGUE & C. L.D 4 & 5 EAST HARDING STREET FETTER LANE E.C.



"INK-PHOTO," SPRAGUE & C^{o} L^{TD} 4 & 5, EAST HARDING STREET, FETTER LANE, E.C

CATHEDRAL SERIES, No. 562.—TRURO: THE NAVE, LOOKING WEST.

The late J. L. PEARSON, R.A., Architect.

[illegible]
OF THE
[illegible]ERSITY [illegible]

The Architect.

THE WEEK.

THE report of the select committee on the Housing of the Working Classes Act is likely to be a strange commentary on what the poet has said about "The cottage homes of England! by thousands on her plains, they're smiling o'er the silv'ry brooks and round the hamlet fanes." Mr. RIDER HAGGARD informed the committee on Monday that he knew a village in Somersetshire in which there was not one house fit for a human being to occupy. The medical officer told him there was no use in condemning them, for the only effect would be to render the people homeless. Near Waltham, in Essex, he found that the home for twenty farm labourers was a brick shed about 14 feet square with no windows. On Sundays the men cooked their dinners in the open air. The worst cottages were found to belong to speculators; and, indeed, people of that class know there is higher interest to be got out of wretched cottages than out of those of a better class. They can be purchased more cheaply and repairs may be neglected. It will be difficult for the committee to discover a remedy. Mr. RIDER HAGGARD said he would not mind leaving the matter in the hands of the District Council. But that would mean that repairs and rebuilding would fall on those who do not employ the labourers, whilst those who have their aid would not have to contribute at a higher rate than ordinary people.

THE subject of the Greenwich generating station, and the possibility of its disturbing the apparatus in the Royal Observatory, came up for consideration before the County Council on Tuesday. As usual, there has been much exaggeration about the risks. Up to the present it appears there has been no serious interference with the work at the Observatory. It is also believed that the possibility of danger could be removed. Meanwhile the highways committee have suspended the erection of the new chimneys, and an assurance was given to the Admiralty that the Council would co-operate with the authorities in ascertaining the best means to obviate interference with the work of the Observatory. The outcry has been against the County Council, but the authorities of the Observatory are to blame. The usual procedure which has to be followed when such works as a generating station are contemplated was not neglected. There were advertisements in the papers about the proposal, plans were lodged, and there was the customary inquiry before a Parliamentary committee. There are no Bills which receive closer scrutiny than the London County Council's. But neither the officers of the Observatory nor the Admiralty took precautions against the danger which, if it was a real one, could easily have been foreseen. Then, when the buildings were erected and the machinery in place, the guardians of the Observatory became alarmed. It is not the first time that Government officials have made discoveries about an impending danger which might have been avoided if ordinary care had been taken.

IT is generally believed that 2½ per cent. can be charged by an architect on works originally included in the contract or tender, but which were not carried out. A case in which the principle was involved has been tried in the Norwich County Court. Mr. BLYTH, an architect of Lowestoft, sought to recover 41*l*. 17*s*. 10*d*. in respect of plans for alterations of an hotel. His claim was based on a charge of 5 per cent. on the total amount paid and 2½ per cent. on amounts struck out. The tender originally amounted to 682*l*. 11*s*., but with extras the contract price was eventually 1,216*l*. 12*s*. 11*d*. After plaintiff's evidence he was about to be cross-examined as to the 2½ per cent. charged on omissions. The Judge said he would not allow such a charge when there was a large increase. The defence was that the plaintiff's superintendence was unnecessary. But the Judge held that as the plaintiff would be responsible for any error, he was therefore bound to superintend the work. Finally, judgment was given for the plaintiff for 39*l*. 16*s*. 7*d*., though no percentage was allowed on the omissions. As far as we can make out, there was nothing peculiar in the case. Two architects who were witnesses said the charges were fair, and the statement that plaintiff was willing to carry out the work at 2½ per cent. was not confirmed. In such a case an agreement in writing would have obviated litigation; yet in a country town where all the parties are known to each other the expression of doubt may be misinterpreted, and the suggestion of an agreement would lead to the calling in of another architect.

THE French Académie des Inscriptions et Belles-Lettres have been lately successful in deciphering and completing an inscription on a stone which was found in the course of the excavations for the Métropolitain at the Quai aux Fleurs. It belonged to the wall existing when Paris was a Roman settlement. The Academy was not always equally successful. The prized inscription "A.D.L.L.," which MONKBARNS, the antiquary, interpreted as signifying *Agricola Dicavit Libens Lubens*, but which really stood for "Aiken Drum's Lang Ladle," and the no less wonderful discovery of Mr. PICKWICK at Cobham, appear to have had their origin in an old effort of the Academy. A stone was found bearing the following words, forming five lines:—

Icil Eche Mind Esan Es.

There were various interpretations, and all different. Fortunately a beadle came to the aid of the archæologists. He remembered when the stone was in its place, and the words when properly arranged formed a direction, *Ici le chemin des ânes*. In fact, it was intended to guide the builders' labourers who used to go to the quarries at Montmartre for lime or plaster, and who had to descend by rather precipitous and confused routes.

IT would be difficult to discover a country so favourable to the growth of officialdom as Ireland. Occasionally from the excess—for under the new regulations there is no weeding or pruning—there is a tendency to dispute the territory, which is not always advantageous to the people. That seems to be the condition of affairs at the present time with regard to schools. The Resident Commissioner of National Education has been giving evidence before one of the commissions which have succeeded each other time out of mind, and he says that they are not able to build a school in Ireland. Those which exist are a scandal to the Government, for they are allowed to be in an abominable state of filth and degradation. This is easily understood when it is found that a consultative committee which is supposed to possess great powers has only met five times in six years. On the other hand, they are able to give orders in five minutes which take six years to carry out. There is a National Board of Education, an Intermediary Board, a Technical Board, an Agricultural and Technical Department, and they all seem to be at loggerheads. Examinations cost 2*l*. a head, which is probably more than the cost of education for a year, and to prevent cribbing 10*s*. a year per head has to be paid. Each department has its own rules and regulations, which are as unalterable as those of the Medes and the Persians, and to get anything done it is necessary to run the gauntlet of them all. The Resident Commissioner thinks there ought to be only a single authority. But there would be such an outcry by the numerous existing authorities, there is no likelihood of such a desirable end being attained.

SIR LAWRENCE ALMA-TADEMA, R.A.

THE Royal Gold Medal for the promotion of architecture was on Monday conferred upon Sir Lawrence Alma-Tadema. It was the second occasion when a painter was the recipient, and by a remarkable coincidence both were painters of ancient Greek and Roman life. Both might also be considered as mural painters in the modern sense of the phrase. Lord Leighton painted directly on the walls of a church in the Isle of Wight and in the museum at South Kensington. He also was prepared to take a part in the decoration of St. Paul's. Sir L. Alma-Tadema assisted in the mural works at the Antwerp town hall. But that was nearly fifty years ago. The prices paid for his works in England, and which did not exceed their value, were at a rate that would make mural works on a large scale almost beyond the resources of millionaires. It is, therefore, as a painter of easel pictures and as a creator of cabinet paintings, rather than as a decorator, that the artist must be considered. In one sense his nomination would seem to open the door to a great many candidates. For, indeed, it would now be difficult to decide what painter was not eligible for the distinction.

If, however, we remember that one of the conditions for a gold medallist is the production of "a work tending to promote or facilitate the knowledge of architecture," then there is hardly another artist among English painters who is on an equality with him. He has certainly never attempted to recreate an entire building and to make it the subject of one of his pictures. His *Phidias at the Parthenon* was suggestive of a great temple in process of construction, and parts of buildings have been introduced with remarkable skill in the majority of his paintings. But Sir L. Alma-Tadema was always more than a painter of costumes, of buildings or of ancient objects. M. Chesneau described the artist's work as an accurate illustration of Smith's "Dictionary of Antiquities." That book is a credit to English scholarship and to George Scharff and other draughtsmen. But it is almost as widely differentiated from Sir Alma-Tadema's work as from Greek and Roman life. The woodcuts are diagrams, and a great many of the defects of English classical and historical paintings have been owing to the belief that such things could be without difficulty translated into pictures. Anyone who will read the suggestions given by Sir Walter Scott to a painter who had selected "Chevy Chase" for a subject will find that much more than any dictionary of antiquities is desirable for the creation of an historic scene. Scott realised that the typical examples which have to be adopted in treatises on armour, costume or other branch of archæology were not likely to prevail at any time. It would be as absurd to suppose that all ladies at the present day walked about the streets in the dresses shown in the fashion plates as to assume that the scenes in Athens or Rome, or in Greek or Roman houses, corresponded with what is found in dictionaries of antiquities. Costume always acquired a character corresponding with individualities. Scott pointed out the ancient description of a marauder who had trews of buckskin "wi' a' the hair aboon." But he took care to warn the artist that such a costume, although warranted by evidence, should only be used for one wild figure in the picture of "Chevy Chase."

Scott had the power of self-projection, and was able to live, as it were, in any period or country, or among any race he had made the object of his studies. Purists in archæology have declared that his descriptions are misleading. But in compensation we have beings in whose existence we are compelled to believe. The French hold that Corneille's Romans are far superior to Shakespeare's. But, as Dr. Johnson has said truly, the English dramatist's Romans are men—which is more than can be said of the Frenchman's. Sir L. Alma-Tadema has, no doubt, studied Smith's "Dictionary." But he has studied much else besides; and he possesses the skill to impart to inanimate objects an importance far beyond that given to them by the keepers of museums or the vast majority of visitors to collections. Sir Lawrence is a Dutchman. But in his ways he is a thorough Englishman. He has the faculty of being easily acclimatised, and if he cared he could present a convincing picture of an English scene of, say, the eighteenth century. He could also paint an incident of our time with as much ease and accuracy as he paints the portrait of a living Englishman or English lady. That power is shown in his incidents from ancient history. Costumes, marbles and decorative objects will all repay examination as he depicts them. But what strikes the ordinary spectator is the conviction that the picture as a whole is a close approach to a representation of what at one time must have happened. Ruskin was, therefore, unwarranted so far as the experience of ordinary people could go, when he said:—"M. Tadema, after reading his Smith's 'Dictionary' through from a to z, knows nothing of Rome but her shadow, and that cast at sunset." If the study of all the remains of antiquity is not sufficient to enable a clever artist to depict an ancient scene, then the sooner men forget there was a past the better for themselves. All such efforts are, if Mr. Ruskin's theory is accepted, only waste of time, and artists had better occupy themselves with painting daisies and coloured stones.

Painting undoubtedly can assist the historian, and it is possible that artists may yet exist who will be able to surpass the Roman scenes of Sir L. Alma-Tadema, as he has surpassed those of David and Benjamin West. But it is doubtful whether any of the future painters will be more devoted to a particular period. There are many admirers of Sir L. Alma-Tadema who express regret that he should have abandoned Merovingian scenes for those of Greece and Rome. The recitals of Augustin Thierry continue to be attractive, and we seem, as it were, when reading them, to see the beginning of that social formation in which we live. The remnants of barbarism which still existed in those days are at least picturesque, and Sir Lawrence found no difficulty in making many pleasant pictures out of them. But he may be said to have forsaken such subjects when he arrived in England. Perhaps he supposed that the early history of the Franks would have little attraction for Anglo-Saxons.

Since 1869 England has had the benefit of seeing every year one or more masterpieces which bring back Greek or Roman life before the eyes of visitors to the Academy or Grafton Gallery. That the standard of excellence could be maintained for nearly forty years is remarkable. In producing such works a painter must have all his thoughts at a very high level. Classic subjects, whether taken from the Forum or the kitchen, are supposed to have something of the ideal about them, and it would be fatal to suggest, like John Leech in his illustrations to Roman history, that there was often a correspondence between antiquity and our time. Gérôme, who likewise could paint admirable Greek and Roman scenes, took care to diversify them with those of a later period. Richelieu and Napoleon made it more easy for him to paint Cæsar or gladiators. Sir L. Alma-Tadema has been strong enough to bear the strain with only the occasional variation of a portrait of some friend.

In his paintings he has realised the importance of architecture to the Roman grandees at least. We are ignorant about the domestic architecture of Greece; and Pompeii suggests how Romans, in order to escape from the life of the city, put up with as much inconvenience as Englishmen now endure in their so-called holidays. But we must believe that the men who, amidst the pride, pomp and circumstance of glorious war, set a high value on statues were able to realise that a marble or bronze figure lost much of its importance if it had a mean background. We cannot suppose that Agrippa gave audience to clients amidst such simple surroundings as suited Cincinnatus or Camillus. The architecture which Sir L. Alma-Tadema employed must have secured favour for English attempts to revive similar forms in buildings.

Simple humourists parade their cleverness by remarks on the marble which is so effectively introduced into the majority of his paintings. They do not realise that no other material is so well adapted for a background, apart altogether from the necessity of using marble as evidence of Roman luxury. Supposing the marble seats with their great curves were supplanted by tapestry, would the figures gain in importance? It might even be concluded that for the display of Greek and Roman costumes, and the delicate contrast which is a necessity, no more suitable material could be found than marble. In one of his tragic pictures, where the murder of one emperor is immediately followed by the discovery of another, massive drapery has to be introduced, and in quantity and colour it exceeds the marble. There is no doubt it adds to the effect of such a scene. But if compared with one of the idylls or compositions in which young girls and children are introduced, we recognise at once how well the artist understands the relative merits of different materials in order to add importance to his living figures.

In his reply on Monday Sir L. Alma-Tadema spoke modestly about his own acquaintance with architecture. His own studio would by itself be enough to suggest that he does not seek models by confining himself to Smith's "Dictionary of Antiquities." What is true of building with him is no less applicable to much else which appears in his paintings. Sir L. Alma-Tadema is not only a painter of a very high class, but he is an archæologist for whom the dry bones of the science are animated, and if not an architect he is an enthusiast for architecture of the noblest class.

AN ACADEMY RECORD.*

It has been a misfortune for English art that the Royal Academy has never succeeded in creating or attracting loyalty to itself as an institution. When an exhibition was opened a few years before its establishment Dr. Johnson wrote a preface to the catalogue in which he said, "The purpose of this exhibition is not to enrich the artist, but to advance the art; the eminent are not flattered with preference, nor the obscure insulted with contempt; whoever hopes to deserve public favour is here invited to display his merit." These words, although somewhat obscured by rhetoric, indicate that exhibitions were intended for the benefit of artists in general as well as for the public good. But in the Royal Academy a different spirit prevailed from the first. The patronage of the king was secured; and it was announced that royal munificence would be displayed as if the Academy were a national institution. But it was soon manifested that what was sought was the benefit of the members. Reynolds, who stood in no need of any outside support, and who was a very honest man, hesitated for a long time before he agreed to be connected with the project. One of the results has been that outsiders have imitated the selfishness of the members, and endeavour as far as possible to utilise the Academy for their individual advantage. Anyone moving among exhibitors at the Academy must be aware that Mr. Algernon Graves's "Dictionary of Contributors," which is the history of English art since 1769, does not excite the interest which so important a record deserves. Artists have not been taught by what they have heard of Academicians during that period to entertain much respect for them. They know of members whose works are now valued at less sums than were paid for the canvas or the marble. The demand has been for single volumes in which an artist's own contributions are registered, and the publishers have been compelled to accept the conditions of the market. Any volume of the series can now be purchased, and we suppose complete sets will not be found even among the books of Academicians.

The latest volume, which is the sixth of the series, has especial interest. As long as the Academy lasts it will always be associated with the name of Sir Joshua Reynolds. He is considered to have been the founder, but he was above the littleness of the wirepullers who to a large extent made him a dupe. And the defects from which the Academy has been unable to clear itself after nearly one hundred and forty years' existence should not be ascribed to him. In 1769, when the first exhibition was held, Reynolds was in his forty-sixth year. He was not only possessed of great power, but his ability had been recognised. The portraits he was able to show were of a character which would rebuke any efforts to introduce "the loaf and cheese that could provoke hunger, the cat and canary bird, and the dead mackerel on a deal board." Between 1769 and 1790 he never missed a year, and his annual average could be taken at twelve. Considering the quality of the work the number was high. Indeed, he seemed sometimes to have dispossessed another painter, for his portrait of Mrs. Parker, in the exhibition of 1773, took the place of a portrait by Liotard. Reynolds believed his success was due to his endeavour to always do his best. Great or vulgar, good subjects or bad, all had nature, and the endeavour to represent them brought improvement. He was constantly experimenting, and if he said he had no settled system with respect to colouring, his unsteadiness proceeded from an inordinate desire to possess every kind of excellence that he saw in the works of other artists; and he admitted that he failed to consider that in colouring, as in style, there are excellences which are incompatible with each other. His own portrait was among those in the exhibition of 1790.

James Paine, who was clerk of works at Greenwich Hospital and architect to the king, was likely to be well known to Reynolds. For when the creation of the Royal Academy was first mooted he prepared plans for a building. It was not then believed that they would be obliged at first to hold their exhibitions in the auction-room opposite Market Lane, in Pall Mall. Although in 1771 apartments in Old Somerset House were assigned to the Academy, they were ill adapted for exhibitions. It was not until 1780 that the first exhibition was held in Somerset House. Paine's contributions to the Academy were only seen in 1783, and consisted of elevations of three stone bridges across the Thames at Chertsey, Walton and Kew. His son exhibited a design for a monument to the Earl of Chatham in 1781, a court in a prison, and a bridge across the Foyle at Londonderry.

Another early architect was Willey Reveley, who was a pupil of Sir William Chambers, and began exhibiting in 1781 with the customary "Mausoleum." He prepared a design for a temple "to the memory of the late Mr. Handel" in 1784. He accompanied James Stuart in Greece, and sent a drawing showing "Ruins of the Temple of Jupiter Olympus at Athens, with the Acropolis, and taken on the spot," in 1785. His best known work is the church of All Saints at Southampton. The Reptons are connected with the history of gardening. Humphrey, who is described as an honorary exhibitor, sent a drawing of the pump-room at Bath with another drawing in 1787. He proposed various improvements for Bath and for Magdalen College, Oxford. His son, John Adey Repton, also appears to have been employed for the improvement of Magdalen. He ceased to exhibit in 1804, but he was among the competitors for the Houses of Parliament and lived until 1860.

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* *The Royal Academy of Arts.* A Complete Dictionary of Contributors and their work from its foundation in 1769 to 1904. By Algernon Graves, F.S.A. Vol. VI. Oakes to Rymsdyk. London: Henry Graves & Co., Ltd. George Bell & Sons.)

The doctrine of heredity finds several illustrations in the Dictionary, and among them the Papworth family. John Papworth began exhibiting in 1791 with a "Model of a British Capital, designed by William Porden," who was an architect connected with James Wyatt, and who seems to have had the Prince of Wales, Earl Grosvenor and other notabilities for clients. One of Porden's drawings was "The Elevation of a House lately built for Mrs. Fitzherbert at Brighton." John Papworth was a regular exhibitor in the latter years of the eighteenth century and the beginning of the nineteenth until 1815. One of his drawings represented the "Hall of Hela, the region of eternal punishment." John Buonarotti Papworth was appointed architect to the King of Würtemberg in 1819, and his last exhibit was a mansion in the Japanese style. C. Papworth was among the honorary exhibitors. George Papworth began exhibiting in 1796: he was afterwards employed in Dublin, and appears to have been connected also with the manufacture of patent stone. Edgar George Papworth was a sculptor, and exhibited a large number of works between 1832 and 1866. Edgar George, jun., was also a sculptor who contributed between 1852 and 1882. John Woody Papworth, architect, began exhibiting in 1837. Then there was R. Papworth, another architect; T. Papworth, a sculptor, and Wyatt Papworth, who contributed several designs, but was afterwards known as a constant writer on architectural subjects.

Henry Parke was a pupil of Sir John Soane, and in 1826 he commenced his representations of Egyptian scenery. He drew so many ruins, we can understand why one of his last drawings should be "The Wreck of Ancient and Modern Splendour." Sir Joseph Paxton exhibited in 1854 "The Entrance Court, Mentmore," and two views of the Crystal Palace at Sydenham. The next year he had two views of mansion at Ferrières. The late John Loughborough Pearson, R.A., first exhibited in 1851, and continued until 1897. Among the designs were several which are masterpieces, such as Holy Trinity, Westminster; St. Peter's, Vauxhall; St. John the Evangelist, Red Lion Square; Truro Cathedral; St. Stephen's, Bournemouth. Sir James Pennethorne only exhibited four times between 1823 and 1840. The subjects were the Quadrant, Regent Street; a National Monument, Westminster Hospital, and the Royal Exchange. Francis Cranmer Penrose exhibited a drawing of a church in 1838. In 1846 he had "A View of the Acropolis at Athens, as it probably appeared at the time of the Crusaders." There were views and suggestions for the completion of St. Paul's, but he was not fortunate in obtaining commissions.

The Royal Academy, it must be allowed, did not set itself against architecture in which iron was the principal element. A drawing by Owen Jones of a shop front in cast-iron was received. In 1852 Mr. W. V. Pickett contributed a mansion which was a combination of parts in his system of iron manufacture. An iron verandah, portico, &c., appeared next year, and in 1864 still further designs. It might be supposed that at one time it was considered lucky for an architect to begin with memorials of the dead. W. F. Pocock enjoyed a large practice for several years, and in 1799, 1800, 1802 and 1803 he was represented by mausolea. His final work in 1841 was the Wesleyan Centenary Hall. Ambrose Poynter exhibited a design for a church in 1817; in 1823 he showed the restoration of a house in Pompeii from drawings made on the spot. In 1852 he contributed a hall at Pynes, Devon.

His son, Sir E. J. Poynter, has been an assiduous exhibitor. From 1861 until the present time, with the exception of the year 1887, one or more of his works added to the interest of the Academy. In 1867 his *Israel in Egypt* appeared, and the next year he was elected an Associate. *Atalanta's Race* was shown in 1876, and in the same year he became an Academician. In 1896 he was elected President and knighted. All who love sterling art must express the hope that pictures by Sir Edward Poynter will be seen in many future years. Samuel Prout exhibited several drawings between 1803 and 1827. The majority of them were English subjects. Augustus Pugin, who is described as architect and painter, commenced his career with a design for an intended villa in the North of England. His last works were shown in 1826-7, and related to cemetery buildings. A. W. N. Pugin did not contribute until 1849, when he was established in practice. His four drawings in that year were "Dining Hall at Alton Towers," "St. George's Cathedral," his house at Ramsgate and "Bilton Grange."

William Railton is best remembered by the Nelson Column in Trafalgar Square, but between 1829 and 1851 his name was attached to several drawings of paintings and residences. Among the drawings by James Randall there was one in 1814 for "A Gallery, as it was intended to have been erected in the Garden of Leicester Square, by B. West, P.R.A." If the work had been carried out it would have saved London from an humiliation which was allowed to exist for too long a time. It seems incredible that the late Sir Robert Rawlinson could produce anything which would be accepted at the Royal Academy. He was, however, allowed to present a design for Westminster Bridge, having triumphal arches surmounted by British lions, &c., &c., a design for weaving sheds, and for a water tower. The committee must have been very generous in those days. Robert Reed had a large practice in Edinburgh. In 1819 he exhibited a "Design for a National Monumental Church for Scotland in the Style of the Parthenon at Athens." It was to be set up at "the north end of the earthen mounds fronting Princes Street, opposite the opening of Hanover Street, Edinburgh." David Roberts was so faithful to architecture he deserves to be noticed. France, Spain, Egypt, Palestine, Belgium, Italy, Edinburgh yielded him subjects. But long as is the list of his works, there does not appear to be any example of Greek architecture amongst them.

Recent schemes for metropolitan improvements do not recognise Drury Lane and Covent Garden theatres as centres which deserve to be isolated. In 1812 a drawing was sent by D. Robertson in which he proposed to clear away all the buildings in front of Drury Lane northward to Long Acre, and the whole of the buildings between Drury Lane and Covent Garden theatres, and to make a square two sides of which would be occupied by those theatres, the third by a new theatre and the fourth by new and extensive police offices. The name of Peter F. Robinson is now almost unknown, but it was familiar to visitors at the Academy between 1797 and 1833. In 1811 he showed "Museum in Piccadilly for Mr. Bullock as an Exhibition for Subjects of Natural History." That was the Egyptian Hall, which was only lately removed; and there the exhibition was held of Tom Thumb, which led to the suicide of Benjamin Haydon in an adjoining room. Mr. Graves's "Dictionary of Contributors" will be found to suggest many things which are sad as well as pleasant in the history of English art, and it is deserving of adoption as a national work.

Sir H. Campbell-Bannerman gave a written answer last week to the question whether the Government or the Trustees of the National Gallery, or both of these bodies, have the power to refuse to hang pictures which may be offered them for that purpose by the trustees of the Chantrey Bequest Fund if they consider such pictures unsuitable for permanent exhibition, and whether they have power to return to the trustees such pictures as they may consider it to be unadvisable to retain. Sir H. Campbell-Bannerman says:—The Treasury letter of November 11, 1898, to the Royal Academy gave the trustees of the National Gallery no power to reject Chantrey pictures, and by a letter of November 29, 1898, the trustees concurred in the Treasury arrangement.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W., Mr. John Belcher, A.R.A., president, in the chair.

Mr. Alexander Graham, hon. secretary, announced the decease of Mr. Andrew Moseley, aged ninety-four, who was elected Associate in 1838, Fellow in 1850, and who was placed on the list of retired Fellows in 1902; and Mr. P. Wilkinson, elected a Fellow 1890.

The Royal Gold Medal, 1906.

The President said:—I count myself peculiarly fortunate in that it falls to my lot to-night to present the Royal Gold Medal to so great an artist as Sir Lawrence Alma-Tadema. You know how sincerely I have desired, how earnestly I have striven, to effect a close relation between the arts, to bring the painter and the sculptor into association and collaboration with the architect for the achievement of the noblest results—results which shall be a triumph of art in its unity and entirety. It is a very happy occasion for me therefore when I am called on behalf of this Institute to do honour to a man like Sir Lawrence, who is not only one of the first of living painters, but has also shown so fine an appreciation and so great a knowledge of architecture, both on its artistic and its practical side, that it has been said that if choice or destiny had not determined him an eminent painter, he might have been a still more eminent architect.

The Gold Medal presented by the King is, as you are aware, conferred annually upon one who is recommended by this Institute and approved of by His Majesty as having designed or executed a building of high merit, or as having produced a work tending to promote or facilitate the knowledge of architecture. Our distinguished member, Sir Lawrence Alma-Tadema, is qualified on both grounds. Indeed, he has rendered such good service to our art—indirectly for the most part it is true, yet not the less substantially and really—that, though he is known to the world chiefly as a great painter, the Institute has felt no hesitation whatever in presenting his name to the King for the Royal Gold Medal, and His Majesty has, with equal readiness we believe, recognised Sir Lawrence's merit and graciously approved the Institute's choice. We have all admired the fine architecture which is so beautiful a feature in many of Sir Lawrence's pictures. Before we speak of that, however, let me tell you, what probably some may not know, that Sir Lawrence *is* an architect. If you have had the privilege of examining the house and studio which he has built himself in St. John's Wood, you will have recognised the hand of a master in every part of it. Not only is it an interesting and delightful building for the ordinary visitor, full of beautiful features which meet you and surprise you at every turn, but it possesses also many details which are worthy of the architect's careful study. The smallest and most insignificant details, in fact, such as would probably escape the layman's attention altogether, have received an amount of thought and care which is both unusual and suggestive. I learnt much that has been useful in Sir Lawrence's house, and its many novel and effective features impressed me greatly. If you ask me what "style" it is—rather an incautious and self-betraying question—I reply, "It is real Alma-Tadema," and that means, at any rate, that it is instinct with life. "To copy and imitate is death to art" is one of Sir Lawrence's principles, and though his archæological knowledge and skill are beyond dispute, and in respect of certain periods and countries unrivalled, yet in his own house he has known well how to be original—both in the arrangement of the plan and in the adaptation of forms and materials to his particular purpose. All is fresh and beautiful, and parts of the house possess a character and environment which would make a Roman of the times of the Empire feel quite at home—even in St. John's Wood. I say a Roman advisedly, of course, because, as we all know, ancient Rome has been Sir Lawrence's chief theme as a painter. He has, I believe, saturated himself with the beauties and glories of Italy—as that great country was before its sun went down. He is probably the first living authority on the artwork of Greece and Rome, and that not merely on the æsthetic side, but on the practical constructive methods that were then in use.

His research has been of the widest scope. He has not been content with studying the grand structures and remains of ancient buildings. He has ventured among the tombs, both Etruscan and Lycian. He has had an eye for Assyrian bas-reliefs, terra-cotta slabs, and all those miscellaneous relics which are to him who knows how to read them a revelation of the history of the past, an index of the power and spirit of vanished nations. This is how it is that Sir Lawrence has been able to use his great gifts to portray for us the architecture of the past, particularly of Rome in all its magnificence. He is never satisfied with a mere suggestion or rough indication of a building. Every single detail, each moulding or other ornament, is most carefully and truthfully set forth. It must be the best of its kind too—something selected for its beauty, and finished and refined with perfect taste. What a wealth of material too he employs, and how he revels in the expressive qualities of each kind. Has anyone else presented, or will anyone ever present, the translucent properties of marble so well as he? Whether it be marble, stone, bronze or silver, he has studied the forms most suitable to each, that everything may be perfect both in form and colour. And then he portrays the whole for us under the sunny skies of Italy, that the beauty of the artist's work may be lighted up and intensified by the beauty and glory of the world of nature. As an indication of the interest that Sir Lawrence takes in other forms of art than that which he has made expressly his own, I may cite two well-known pictures of his, "Architecture in Ancient Rome," in which he depicts the architect engaged on his work, and another in which the sculptor Phidias is represented putting the finishing touches to the Parthenon frieze and explaining it (apparently) to his friends and patrons. He has also given us a picture of a sculptor's studio and a corresponding one of a painter's studio. Architecture figures more or less conspicuously in quite a large proportion of Sir Lawrence's paintings, as you may see by the photographs which he has kindly lent for your inspection this evening. In some it is quite a (if not the) prominent feature, as, for instance, the picture in which he has reconstructed the Roman Colosseum, and another representing the Baths of Caracalla in all their splendour—magnificent paintings, both of them, impressing us with a conviction of the absolute accuracy of every detail, such as only an architect could reproduce. I must not attempt to speak of all Sir Lawrence's paintings that contain architectural accessories—a bit of an exterior in this one, a bit of an interior in that, and so on—pictures in which the architectural element is naturally and properly limited and made subservient to the figures in the composition. But this I should like to say, that however much or however little may ultimately find place in the actual canvas, it has all been carefully planned and set up in section first. There is one of Sir Lawrence's pictures which presents a complete architectural work, filling, indeed, the major part of the canvas. I refer to the painting known as "Down the River," which contains the whole of a well-designed bridge of five arches, a reconstruction—idealised no doubt—of the celebrated bridge of Augustus at Rimini. The four piers contain good-proportioned niches occupied by bronze statues, and framed with column, cornice and pediment. The parapet is perfectly plain and, like the arches, without moulding. The bold cornice which separates parapet and arches is horizontal. The arches vary in height and evidently follow the curve of the roadway. Over the centre arch is a raised stone block panelled for lettering, and above that again a recumbent river-god. At one end of the bridge may be seen an arched entrance to the roadway. The whole treatment is simple and dignified, and the effect of the long horizontal line of the cornice is particularly good. But, as a wonderful illustration of Sir Lawrence Alma-Tadema's architectural knowledge and the clearest proof of the practical value of his archæological researches, I desire to direct your attention to the series of designs which he made for Sir Henry Irving for the scenery to illustrate Shakespeare's play of "Coriolanus." Here we have whole buildings, and even groups of buildings, exteriors and interiors, presented with a marvellous appearance of solidity, and marked not only by a wealth of beautiful detail, but also—which is perhaps more wonderful—by complete constructional fidelity. Mr. Phenè Spiers, writing of these scenes in the *Architectural Review*, makes a point of the constructive genius displayed in them, and remarks that Sir Lawrence's "interpretation, based on the most profound archæological research, of the variety of design in Etruscan architecture comes to us virtually as a revelation." Quite apart from the beauty of the colouring or the picturesqueness of the grouping, the actual designs fill us with admiration. In the Roman Forum scene, for instance, as shown in the original drawings, Sir Lawrence has reconstructed the Forum buildings for us after a manner which we instinctively feel is absolutely true, not only to the general form and spirit of Roman work, but also to the particular period in which the play passes; and as for detail, even the construction and framing of the timbers are carefully shown. In the widely projecting timber eaves which constitute a striking feature in the typical Etruscan temple the artist has treated a somewhat difficult problem. This great projection (over 7 feet) of the beams which support the boarding of the roof and gutter was intended to protect the wall decorations beneath them. But these single beams, relatively to the whole, look thin and weak; so Sir Lawrence added two extra ones underneath of shorter length, thus dividing the projection into three parts. He also terminated each timber end with a bracket, just as we see in some of those old ceilings where the joists are exposed and the span is great. Mr. Spiers, himself no mean authority, speaks of this treatment as both original and effective. Then there is the house of Tullus Anfidius—a beautiful design with a projecting and overhanging balcony of wood, full of detail, evincing great technical knowledge. The charm of the whole scene in which this is presented will not easily be forgotten. In another scene there is a very striking entrance doorway or projecting portico, the upper part of which, covered in by a semicircular roof of bronze plates, forms a kind of outlook. The constructive timbers with their tenons and pins are all carefully shown in this design. The general form has been probably suggested by some old tomb, but the details are fresh and original. Amongst the beautiful interiors presented in these designs we may mention the Senate House and Coriolanus's house. In the latter the excellence of the plan, the beauty of the colouring and the effects of light and shade attract our attention and excite our admiration. The arrangement of the Senate House is simple and withal impressive. The beautifully moulded square Etruscan piers, enclosing the hemicycle of stone seats ranged in tiers above one another, are very fine in scale, their apparent size being increased by their contrast with the small figures of the projecting Etruscan frieze above. Between the piers and the frieze is an architrave marked by a curious and effective square block corbel.

I have indicated a few of the most striking features in this wonderful series of designs, but no words of mine can convey any adequate conception of the amazing wealth both of knowledge and of skill to which they bear witness. When we consider the many and varying elements which go to make up their truth and their beauty we can only wonder that they all fall within the scope of one man's powers. To one of the rarest gifts as a painter Sir Lawrence Alma-Tadema adds the powers of a great architect, and endows all his work with a perfection of taste and a fulness of knowledge which in their combination are unrivalled. The rising generation, who are not too old or too proud to learn, may profit much by Sir Lawrence's example. He has shown to all men the immense importance of accurate and careful detail. He is a living witness to the truth that the ultimate refinement of all work depends upon the amount of thought and study bestowed upon each and every part. Furthermore, all his work is an illustration of the right and true use of archæological knowledge. Though he is well versed in all the forms and details in use amongst the Romans, he has not been content merely to copy and imitate their work—he has advanced it along the old lines, after the traditional manner and in the true spirit of the original. He has not cast aside the experience of the past, but has shown us how it can be rightly used and carried forward. His work has given us a true insight into the methods by which alone our beloved art can be advanced and made to live. In the presentation of the Royal Gold Medal we recognise and acknowledge Sir Lawrence Alma-Tadema's services to architecture—in promoting a knowledge of and quickening an interest in it—and we are glad to be thus permitted to honour him. He has had many honours conferred upon him. He is the possessor of the Order of Merit. He received his first gold medal at the age of twenty-six; I am not sure how many he has received since. But not one of all the many distinctions that have been conferred upon him has been bestowed with more heartfelt pleasure and more real esteem than the medal I have now the honour of presenting.

The President then made the presentation.

Sir L. Alma-Tadema, in replying, said:—The sun has often shone upon me in the course of my life, but it has never warmed me more than at this moment, when the apostles of architecture have bestowed upon me that great distinction, the Royal Gold Medal, for services rendered to the well-beloved sister art. Our kind President has honoured me by explaining to you my connection with architecture; and I am proud to think that my poor services to an art which I love beyond expression have been thought worthy of consideration, although, when I compare my achievements with my love, it seems to me that I have done very little. The sister arts have always appeared to me indivisible—different parts of a single whole; and I realise that from this point of view I might be regarded as a link of some interest, my own particular art being so closely concerned with architecture that I was myself at times almost tempted to believe I knew something about it. It would no doubt be enlightening if we could point out to one another the causes that lead us each to his peculiar bent in the pursuit of a common ideal; but none of us really knows what impelled him to choose a certain pathway in the kingdom of art. Art is so manifold in its aims and expressions that it seizes every one of us in a different way, and yet in the same way; it seems to take possession of us, and forces from us different expressions of the same truth. What this truth is no man has yet been able to define: it always seems to me that art is an expression of the human mind which exists merely because it is an expression of beauty, and to quote Winckelmann's fine definition, "Beauty is one of the great secrets of nature, of which we all behold and receive the influence, but of which a general and clear understanding belongs to the eternally unfathomable truths." Indeed art is a thing about which one cannot speak or reason; yet it is a thing that fills one with emotions and expressions which one spends one's life trying to communicate to one's fellow-creatures, in the silent language of one's craft; if once art has a foothold in a man's nature it masters him and forces him to do this, it convinces him that he is bound to communicate his impressions, that he may not keep them to himself, and that there is no happiness for him unless he can share with all the world that which possesses him so deeply. Every artist is conscious, therefore, that he has little to say concerning his artistic aims and ideals beyond what can be read in his work. I have taken the liberty of showing you, by permission of the President and Council, a few reproductions of my pictures, in order to prove to you how greatly my mind has always been pre-occupied by architecture in the execution of my own art. I should, of course, have preferred to show you the pictures themselves, but, with the exception of a few, they are all abroad. You will see that in some I have tried to reconstruct antique buildings; in others I have been concerned with the proportions of figures to architecture—I am even showing you a composition of a Gothic entrance to a cathedral, exhibited as long ago as 1857, to prove to you that my very beginnings were architectural; and a painting of the church of St. Clemente in Rome, dated 1863, will show you that during my first visit to Italy, at a moment when I was steeped in studies of the Merovingian period, I was mainly pre-occupied by the study of Early Christian churches. I cannot sit down without a sincere expression of gratitude to the President for his all too kind words of goodwill towards me and my art, and to you, ladies and gentlemen, for the way in which you have sympathised with me in the receipt of this honour, which, I am happy to feel, has met with the approval of His Majesty.

The President said if they looked at the reproductions the works of their honoured Fellow he thought they would admit that the large number of pictures were planned out with architecture in the composition. They would have an opportunity, he said, of viewing the engravings and photographs arranged around the room, but before they did so he would ask Sir Lawrence to say a few words on the collection.

Sir L. Alma-Tadema in his remarks said the painter had a great advantage over the builder—the architect—because he would sometimes be asked to repeat the theme of his pictures, whereas no client, the speaker fancied, had ever commissioned an architect and allowed him to work from old plans.

Sir Aston Webb, R.A., proposed a vote of thanks to the President who had served them so well during the two years he had held office. As their President he had guided the affairs of the Institute with judgment, and the position had required great discretion and tact during the last two years. As an architect they all honoured him for his work and for the individuality shown in it. Mr. Belcher worked on traditional lines, but in all his buildings there was that individuality of character which they looked for in all good architecture. As a man he had been faithful and just in his relations with others.

Mr. JOHN SLATER formally seconded the motion, and amid great acclamation the President briefly replied and the meeting terminated.

THE SCHOOL OF ARCHÆOLOGY IN ROME.

IT may be said with truth and without exaggeration that the English visitors who go to Rome every year may be counted by the thousand. Many of these are, says a correspondent of the *Liverpool Courier*, of course, tourists of the kind with whom we are familiar at Blackpool and Llandudno, worthy folk intent on seeing the world and pleased at the way in which modern Italian taste has smartened up old Rome. These find ineffable joy in the new post office, the new synagogue, the new tunnel under the Quirinal and the instalment of electric light in the Corso. They are relieved to find that the ruins are not more ruinous than they are and that there are not more of them. They are interested in all that they see, but are not very interesting themselves.

There is, however, a smaller class of Englishmen who go to Rome as often as their means will admit, but their journey is in the nature of a pilgrimage to a holy shrine. They have been brought up as scholars, and for them ancient and historic Rome has a message more important and more weighty than even Mediæval Rome, with its stately but somewhat barbaric pomp. Some even of these scholars are at a loss to find their way amongst the maze of antiquities of the Eternal City, and none can be surprised at this when we reflect on the fact that some 3,000 years have passed since Rome was built, and that natural decay has been busy from the earliest times in causing the historical buildings of one generation to disappear and to be replaced by those of another generation. Besides this, sieges innumerable, huge fires, floods and, above all, base Mediæval nobles by their ravages have done their very utmost to make a gulf between the Rome of past history and the present time. As fortune has willed it they have not succeeded, and Rome still remains, in spite of barbarian foe and of her own traitorous sons, the magnetic city, which draws to her all those to whose heart history, religion or art makes any appeal.

It is natural to expect that all civilised nations should vie with each other in the honourable rivalry of disinterring the ruins of the past, and in reconstructing history by the aid of their efforts. And as a matter of fact Germany, France, the United States of America and England have each established a school of archæology in Rome, whose object it is to investigate such antiquities as may be unearthed, and to publish the results to the world. Of the countries named, the first three give a handsome subsidy at the Government's expense towards the upkeep of the school, and this is notably the case with Germany and France, whose contributions to archæology have been very great and continuous. England until the last year or so has contributed absolutely nothing as a nation, and the school has been "run" by the unselfish and unpaid efforts of some enthusiastic Oxford students, while the rent of the buildings and the upkeep of the scanty library has been defrayed by the subscriptions of private individuals who happened to take an interest in archæology.

It should be made known then to British scholars visiting Rome that the British Archæological School is situated in the Palazzo Odescalchi, Piazza dei Santi Apostoli, in Rome. A new director has been appointed in the person of an Oxonian, who had long given his services to science and to his countrymen for nothing. The director brings out every year a book containing a description of the most recent archæological discoveries in Italy, and containing also a description of the researches which either he or his colleagues have made during the year. Unfortunately for us the Italian Government will not permit any citizen of a foreign Government to excavate, and unfortunately for science the Italian Government has not the money to spend in excavating the enormous amount of land which is known to conceal treasures of art.

Still, even without excavating, there is much for a school of archæology to do in Rome. The director, Mr. Ashby, and his colleagues range over the Campagna and hardly ever return without identifying some site and stumbling on some treasure, for it must be remembered that the Campagna is in many ways only partially explored, and the Romans themselves are most incurious as regards their own antiquities. Besides this the officers of the British Archæological School make it their duty to conduct scholars round the Forum and Palatine and other resorts which offer the greatest attraction to antiquarians, and offer their services to aid such visitors to enable them to examine with profit the different remains of centuries of civilisation. They boast, too, a library in which scholars can read and write and find books of reference, and friends to answer questions. In return for their services the director and his colleagues are very anxious to secure donations of books for their library and of money to extend their operations.

Those who have not lately been in the Eternal City are perhaps unaware how many new and interesting facts have been brought to light by recent excavations. The ancient sepulchres found in the Forum Romanum have proved what sort of men lived on the site where Rome afterwards stood before that city was founded. The passages which have been laid bare in the Colosseum have shown us the way in which the wild beasts were forced on to the arena, there to prey upon their unfortunate victims. New houses have been unearthed on the Via Appia, notably one close by the Porta Sebastiana, which exhibits to us exactly the way in which a great Roman nobleman had his home and its surroundings constructed. We trust, then, that some of the many strangers who pass their winters in the Eternal City may see their way to support an institution which lays itself out to aid all British subjects resident in Rome.

LONDON COUNTY COUNCIL COMMISSIONS.

IT appears that numerous inquiries have been received from influential auctioneers and surveyors as to whether the London County Council would be prepared to pay them commission in the event of their introducing tenants for the surplus land from the Holborn to Strand improvement. The improvements committee consider that it is to the Council's interest to allow its officers to conduct negotiations for the disposal of its surplus property, but that if it were known that commission would be paid in those cases where a letting was effected through an introduction by an agent, it might be possible for the Council to secure tenants who would not otherwise entertain the idea of dealing with its property. It is the general practice throughout the profession for commission to be charged by and paid to surveyors, &c., in such cases. The usual commission in respect of property in the central parts of London is half a year's ground rent, but in the case of suburban property one year's ground rent is generally allowed. Having regard to the valuable character of the surplus land from the Holborn to Strand improvement, it is thought that commission should be paid at a less rate per cent. than in the case of ordinary property. A scale of commission has accordingly been framed as follows :—

Annual Rent.	Suggested Commission.	Annual Rent.	Suggested Commission.
£	£	£	£
500	125	4,500	450
1,000	150	5,000	500
1,500	175	5,500	550
2,000	200	6,000	600
2,500	250	6,500	650
3,000	300	7,000	700
3,500	350	7,500	750
4,000	400	10,000	1,000

It will be noticed that the suggested commission varies from one-fourth of a year's rent in the case of a letting at 500*l.* a year to one-tenth of a year's rent in lettings of from 2,000*l.* to 10,000*l.* a year, so that if by the payment of commission the letting of a site were accelerated by only three months the Council would gain financially, whilst in the case of the more valuable sites the Council would gain if a letting were accelerated by only five weeks. The committee believe that the modified scale of commission would be accepted by the profession. The minimum annual rent of the unlet portion of the surplus land from the improvement, even after the letting at 55,000*l.* a year of the central portion of the Strand crescent site shall have been completed, may be estimated at a sum approaching 100,000*l.* The committee are strongly of opinion that, as a means of expediting the disposal of the land, the Council should agree to the payment of commission as suggested above. They desire, however, to direct particular attention to the fact that the arrangement will only apply to land from the Holborn to Strand improvement, that all negotiations for the letting of the land will be conducted as heretofore by the Council through its own officials, and that the commission will only be payable in those cases in which a letting is actually effected as the result of an introduction to the Council.

NOTES AND COMMENTS.

There is so little remaining above ground of the Temple of Juno Lacinia, near Cotrone, in Calabria, the intervention of the Italian Government to protect the remains cannot be of much advantage. The greater part of the masonry was utilised for the construction of a mole for the protection of the little harbour of Cotrone. Careful excavations might, however, reveal the plan of the building. Probably no other temple received so much praise from poets. Although distant from Greece, countless votive offerings were sent to it. The renowned painting by Zeuxis of Helen of Troy was deposited there. In order to be able to paint the figure, the artist was allowed to select five of the most beautiful women in Cotrone to serve as models. How he was able to use so many for a single figure has been debated by writers on æsthetics. Zeuxis was also permitted to exhibit the *Helen*, and was said to have made so much money he could afterwards dispose of his pictures gratuitously. People used to come to Cotrone from all parts of the then civilised world in order to gaze upon the painting. A Doric column which has survived is 26 feet high, but it is inadequate to give a notion of a temple that in times of war was considered sacred and was spared.

The annual Congress of the Société Centrale des Architectes, which this year was presided over by M. Nenot, came to a close on last Saturday. The premiums were distributed by M. Dujardin-Beaumetz. The principal awards were as follows :—Médaille d'honneur to M. Duchatelet, architect, Paris ; Prix Dejean to M. Cordonnier, architect, Lille ; large silver medal for private architecture to M. Sibien, architect, Paris, and to M. Lemaire, architect, Valenciennes ; silver medal for archæology to M. Dufour, architect, Paris ; silver medal for jurisprudence to M. Ewald, architect, Paris ; large silver medal for students of the schools of France in Athens, Rome and the East to M. Albertini, member of the School of Rome ; large silver medal for studies of French monuments to M. Ventre, architect, Paris.

According to Mr. G. C. Hyde, great care should be exercised in the introduction of ornamentation in the buildings erected in earthquake districts. Throughout the devastated district in San Francisco, great blocks, stone spheres of masonry, carved figures, &c., were thrown to the ground by the force of the oscillations, and had the disaster occurred at a time when the streets were crowded with people it is safe to assume that great numbers of lives would have been sacrificed. It is also suggested that cornices should everywhere be constructed of very light material, which should be anchored in a firm manner to metal supports forming a part of the steel or other framing of the structure. In no case should heavy projecting masonry be used for cornicework, no matter how apparently well anchored it may be. Ordinary mortar is another source of danger in such districts as San Francisco. Mr. Hyde observed many cases of brick walls unexposed to fire which were found to have practically no tensile strength—hardly as much as would have been secured by the use of well-selected and well-tempered clay. Such masonry was destroyed by the earthquake, and in its destruction caused very considerable loss of life. But if the earthquake had occurred at a less fortunate time, this poorly constructed masonry would have been responsible for a far larger number of deaths. Properly designed and executed masonry employing Portland cement mortar was found to have withstood the force of the vibrations reasonably well.

The position of St. George's Hospital is undoubtedly one of the most commanding in the Metropolis. To have an hospital on a site of the kind impresses foreigners with a belief in English benevolence. Like other hospitals which were erected several years ago, St. George's has many defects, and the whole staff have agreed in a report that rebuilding will sooner or later become essential. At the same time they are not in favour of removal. The treasurer has been, however, endeavouring to obtain offers for the ground. But the minimum sum required is 400,000*l.* As yet no speculator has offered that amount. The estimated cost of rebuilding the hospital on the present site is 350,000*l.* If some of the adjoining property were purchased, additional wards could be found by an outlay of 120,000*l.* Under the circumstances it is difficult for the governors to come to a decision. After a long debate on Tuesday the resolution adopted two years ago was reaffirmed, viz. :—"That it is not desirable at the present time and in the existing circumstances to remove St. George's Hospital from its present site."

The second part of "The American Vignola," by Professor Ware, has appeared after an interval of about three years. It relates to arches and vaults, roofs and domes, doors and windows, walls and ceilings, steps and staircases. General directions are first given concerning the treatment which should be followed according to Italian practice mainly, and the diagrams are of the kind which is adapted to elucidate principles. In other words, the parts are treated as if architecture was identical with construction. In the supplementary plates ornament is not eschewed. In that way the skeleton as well as the outer clothing are suggested in their true relations. Professor Ware understands the needs of a student, and he supplies it as far as is necessary with Italian work. The book can be obtained from Mr. Batsford.

ILLUSTRATIONS.

NEW OFFICES FOR THE HEARTS OF OAK BENEFIT SOCIETY, EUSTON ROAD, N.W.

We have already given some views of the interior of the new offices of the Hearts of Oak Benefit Society, which were opened by His Majesty on Saturday, June 2. When the character of the majority of the houses in the same thoroughfare is remembered the introduction of so effective an example of modern Renaissance must have a beneficial effect which will lead to rebuilding of many premises. The courage, good taste and public spirit of the society are demonstrated by the character of their offices, and the possession of so telling and enduring an advertisement was a wise appropriation of funds. The architects are Messrs. Essex, Nicol & Goodman, of Birmingham, who have been aided by the designing power of Mr. Nicol, jun.

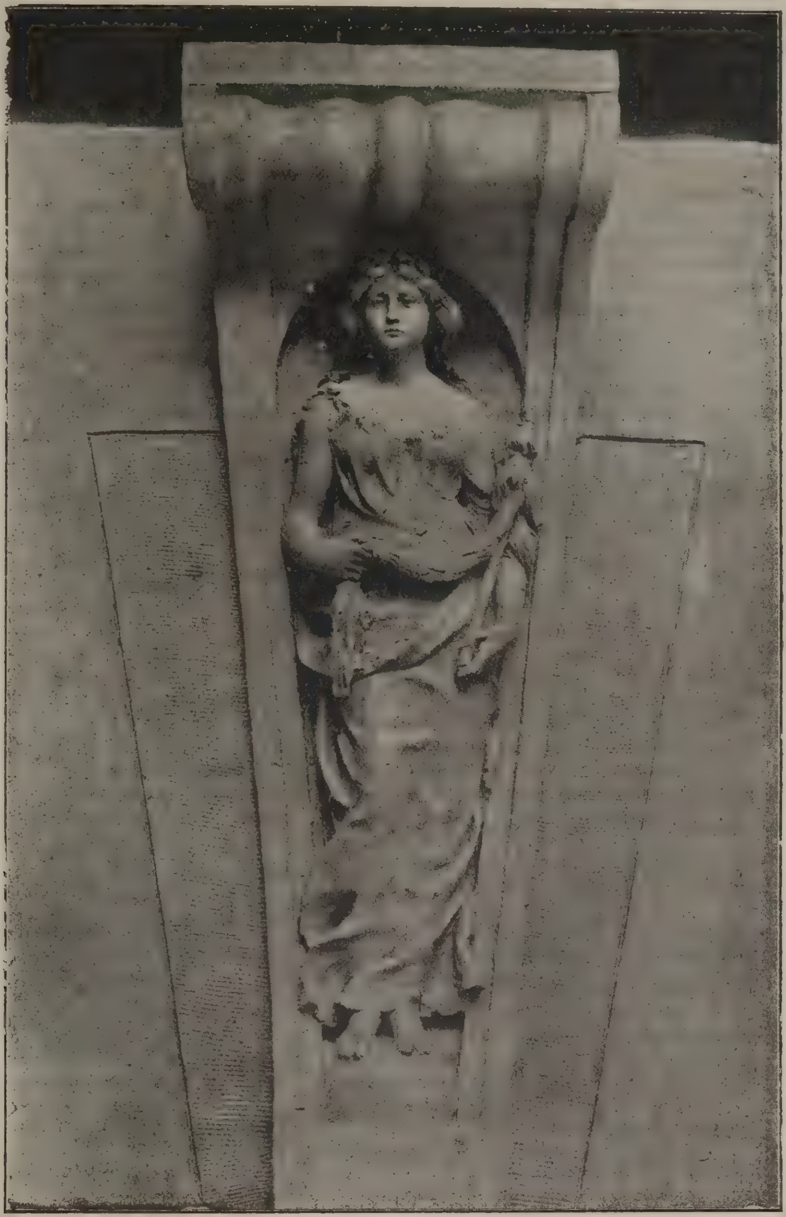
NEW PREMISES FOR MESSRS. WARING & GILLOW, LTD., OXFORD STREET, W.

The view now published represents Messrs. Waring's new building without any interruption from other premises. Although Oxford Street contains many skilful examples of architecture, the new building has characteristics by which it asserts itself. For a business like Messrs. Waring's that is an advantage. Importance is also attached to the treatment of the ground floor by which the space for exhibiting goods is increased. Mr. R. F. Atkinson is the architect.

MOFFAT COTTAGE HOSPITAL.

CRIEFF COTTAGE HOSPITAL.

CATHEDRAL SERIES.—TRURO: FULL-LENGTH VIEW, LOOKING EAST.



HEARTS OF OAK OFFICE—KEYSTONE AT PRINCIPAL ENTRANCE.
Messrs. Horsman & Gunthorpe, Sculptors.

HAWSTED HOUSE.

ONE of the most interesting of the Suffolk mansions is that which is sometimes called Hardwick House, and stands within about five miles of Bury St. Edmunds. In the seventeenth century it was known as Hawsted House, Hawsted Place, or The Place. It was one of the mansions visited by Queen Elizabeth. Her Majesty rode in the morning from Sir William Cordell's at Melford and dined with one of the Drurys at Lawshall Hall, about five miles distant from Hawsted. This visit is thus recorded in the register of that parish under the year 1578:—"It is to be remembred that the queen's highnesse in her progresse, riding from Melford to Bury 5° Aug. Regineque 20 annoque D'næ predicto, dined at Lawshall Hall to the great rejoicing of the said parish and the country thereabouts. In the evening she came to Hawsted; her apartment there ever afterwards as usual retaining her name. Tradition reports that she dropped a silver-handled fan into the moat. It was at this time perhaps that the royal guest bestowed the honour of knighthood upon the master of the mansion."

It was this Sir William Drury who, it is believed, rebuilt or greatly repaired Hawsted House. Hawsted House might be confused with other ancient mansions if it were not that in the eighteenth century an ample description of it was prepared and which is now reprinted:—

Its situation, as of many old seats in the neighbourhood, is on an eminence, gently sloping towards the south. The whole formed a quadrangle 202 by 211 feet within, an area formerly called the "Base Court," afterwards the "Courtyard." Three of the sides consisted of barns, stables, a mill-house, slaughter-house, blacksmith's-shop and various other offices, which Harrison, in his description of Britain, tells us began in this (Elizabeth's) reign to be thrown to a greater distance from the principal house than they were in the time of Henry VIII. The entrance was by a gatehouse in the centre of the south side, over which were chambers for carters, &c. This was afterwards laid open and fenced with iron palisades. The mansion-house, which was also a quadrangle, formed the fourth side, standing higher than the other buildings, and detached from them by a wide moat, faced on all its banks with bricks and surrounded by a handsome terrace, a considerable part of which commanded a fine view of the surrounding country, and bespoke a taste superior to the artificial mount, which in many old gardens was to be clambered up for the sake of the prospect. The approach to the house was by a flight of steps and a strong brick bridge of three arches, through a small "jealous" wicket formed in the great well-timbered gate that rarely grated on its hinges.

Immediately upon peeping through the wicket the first object that unavoidably struck the sight was the stone figure of Hercules, as it was called, holding in one hand a club across his shoulders, the other resting on one hip, discharging a perennial stream of water into a carved stone basin. On the pedestal of the statue is preserved the date, 1578, which was the year the Queen graced this house with her presence; so that doubtless this was one of the embellishments bestowed upon the place against the royal visit. A fountain was generally (yet surely injudiciously in this climate) esteemed a proper ornament for the inner court of a great house. This was supplied with water by leaden pipes, at no small expense, from a pond near half a mile off. Perhaps the figure might be designed to represent a wild man or savage, having no attribute of Hercules but his club, and all his limbs being covered with thick hair and his loins surrounded with a girdle of foliage. He resembles much the supporters of the arms of the families of Berkley of Stratton and Sir John Wodehouse. *Hombre salvagio*, just come out of the woods with an oaken plant in his hand and overgrown with moss and ivy, was one of the personages that addressed Queen Elizabeth at her famous entertainment at Kenilworth Castle.

The inner court, as it was called, in which this statue stood, and about which the house was built, was an area of 58 feet square. The walls of the house within it were covered with the pyracantha of venerable growth, which, with its evergreen leaves enlivened with clusters of scarlet berries, produced in winter a very agreeable effect.

Having crept through the wicket before mentioned, a door in the gateway on the right conducted you into a small apartment called the "smoking-room," a name it acquired probably soon after it was built, and which it retained with good reason as long as it stood. There is scarcely any old house without a room of this denomination. In these our ancestors from about the middle of the reign of Elizabeth spent no inconsiderable part of their vacant hours, residing more at home than we do, and having fewer resources of elegant amusement. At one period at least this room was thought to be the scene of wit, for in 1688 Mr. Hervey, afterwards Earl of Bristol, in a letter to Mr. Thomas Cullum, "desired to be remembered by the witty smokers at Hausted." Adjoining to this was a large wood closet and a passage that led to the dining-room, of moderate dimensions, with a large buffet. These occupied half the south front. At the end of the dining-room was originally a cloister, or arcade, about 45 feet long, fronting the east and looking into a flower garden, within the walls of the moat. The arches were afterwards closed up and glazed and a parlour made at one end. There are few old mansions without one or more of these sheltered walking places, and they certainly had their use; but this age of list, sand-bags and carpets, that dreads every breath of air as if it were a pestilence, shudders at the idea of such a body of the element being admitted into any part of a dwelling. This cloister was terminated by the spacious and lofty kitchen, still standing, and well supplied with long oaken tables.

On the left-hand of the entrance, and opposite the smoking-room, was the chapel, a room of state, much affected by the whole manorial lords, who seem to have disdained attending the parochial church. The last sacred office performed in it was in July 1733. Through this was a door into the drawing-room or largest parlour, which, with the chapel, occupied the other half of the south front. Adjoining to the parlour was a large gloomy hall, at one end of which was a screen of brown wainscot, in which was a door that led to the buttery, &c. These formed the west side of the square. Beneath these apartments and those on the south side were the cellars, well vaulted with brick. The north side was occupied by the kitchen, and at the back of it was a drawbridge. These were the apartments on the ground floor, which was raised 12 feet above the surface of the moat. Over the gateway, chapel and largest parlour were the royal apartments, which were approached by a staircase out of the hall. On this staircase, against the wall, stood some painted boards, representing various domestic servants. Several bedchambers of common proportions occupied the chief part of the rest of the first storey. Among the rooms on that floor was one called the still-room, an apartment where the ladies of old amused themselves in distilling waters and cordials, as well for the use of themselves and of their poor neighbours as for several purposes of cookery. In this room stood a death's head, no improper emblem of the effects of the operations carried on within it.

Contiguous to one of the bedchambers was a wainscotted closet about 7 feet square, the panels painted with various sentences, emblems and mottoes. It was called the painted closet; at first probably designed for an oratory and, from one of the sentences, for the use of a lady. The dresses of the figures are of the age of James I. This closet was therefore fitted up for the last Lady Drury, and, perhaps, under her direction. The paintings are well executed and now put up in a small apartment at Hardwick House.

The following sentences, which are intelligible enough, are in cartouche scrolls in narrow panels at top:—Quod sis esse velis nihilque malis. Summam nec metuas diem, nec optes. Quæ cupio, haud capio. Parva, sed apta mihi: nec tamen hic requies. Nunquam minus sola, quam cum sola. Amplior in cœlo domus est. Frustra nisi Dominus.

Among the emblems with mottoes are:—(1) A monkey sitting in a house window and scattering money into the street. Ut parta labuntur. (2) A camel trampling in dirty water. Pura juvent alios. (3) A fire on the banks of a river. Dum servi necessaria. (4) A painter having begun to sketch out a female portrait. Dic mihi qualis eris. (5) A human tongue with bat's wings and scaly contorted tail mounting into the air. Quo tendis? (6) A tree with sickly leaves and a honeycomb at its roots; near it is another quite leafless. Nocet empta dolore voluptas.

Altogether there are about fifty examples. The bottom panels are adorned with flowers in a good taste.

The windows, in general, were spacious, but high above the floors. In still earlier times they were very narrow as well as high, that they might be more difficult marks for the arrows of an enemy, and that, if the arrows did enter, they might pass over the heads of those that were sitting. After this, precaution was needless; the windows, though enlarged, continued to be made high, even till modern days. The beauty of landscape, so much studied now, was then but little or not at all regarded; and high windows, when opened, ventilated the apartments better than low ones, and when shut the air they admitted was less felt.

On two porches, between which stands the figure of Hercules, are still extant in stone the arms of Drury, consisting of sixteen quarterings, and those of Stafford of Grafton, with a canton ermine and five other quarterings. This circumstance, corroborated with the general style of the building and the date on the pedestal of the statue, induces one to believe that this house was rebuilt or thoroughly repaired by that Sir William Drury who married a lady of the name of Stafford, and who succeeded to the estate upon the death of his grandfather in 1557. The oak panels of the wainscot of one of the rooms at Hardwick House are all marked in gold with the Stafford knot, the cognisance of that family.

The walls of the house were chiefly built of timber and plaster. The plaster in the front was thickly stuck with fragments of glass, which made a brilliant appearance when the sun shone and even by moonlight. Much of it still remains and appears to be but little injured by centuries—perhaps will survive the boasted stucco of modern artists. This excellent composition contains plenty of hair and was made of coarse sand, abounding with stones almost as big as horse beans. And in some of the old walls round the house where the bricks have crumbled away the layers of mortar continue sound and support themselves by their own compactness. The art was not lost even in the seventeenth century, for some plaster on an outhouse, which bears the date 1661, still remains perfectly firm. This house was no bad specimen of the skill of former artists in erecting what should last. Part has been taken down, not from decay, but because it was become useless. The mode of its construction contributed towards its durability, for the tiles projected considerably over the first storey, and over the ground floor, so that the walls and sills were scarcely ever wetted.

In the year 1685 this house paid taxes for thirty-four fire-hearths, two shillings each hearth.

The banks of the moat were planted with yews and variegated hollies, and, at a little distance, surrounded by a terrace that commanded a fine woodland prospect. Here were orchards and gardens in abundance, and a bowling-yard, as it was called, which always used to be esteemed a necessary appendage of a gentleman's seat.

This place was well furnished with fish ponds. There is near it a series of five large ones, on the gentle declivity of a hill, running into one another, the upper one being fed with a perennial spring. There is another similar series of small ones that served as stews. These must have been made at a very heavy expense, but they were necessary when fish made so considerable a part of our diet as it did before the Reformation, and when bad roads made sea fish not so easily procured as at present.

There was also a rabbit warren in the park, a spot that would have borne good wheat. But it was, like a pigeonhouse, a constant appendage to a manorial dwelling. In the eighth year of James I. a stable near the coney warren was let with the dairy farm, and even in the next year we hear of the warrener's lodge.

One principal reason of the number of warrens formerly was the great use our ancestors made of fur in their clothing. "I judge warrens of coneys," says Harrison, "to be almost innumerable, and daily like to encrease, by reason that the black skins of those beasts are thought to countervail the prices of their naked carcasses." The latter were worth 2½*d.* a piece, and the former 6*d.* 17 Henry VIII.

The following summary description of Hawsted appears in a survey of the manor taken in the year 1581:—"Willielmus Drury miles, dominus hujus manerii, habet in manibus suis scitum manerii de Buckenhams, in quo inhabitat, quam optime constructum, cum uno curtilagio, gardino, uno le mote circumjacente, uno le traves ante portam messuagii predicti, et unam magnam curiam undique bene edificatam, cum stabulis, orreis, pistrino, le dayery howse, et aliis edificiis necessariis et aptis pro manutencione capitalis messuagii predicti, et uno orto sive pomario, ex parte orientali messuagii et magne curie predicte."

Sir William Drury was elected one of the knights of the shire in 1585, and in 1589 was killed in a duel in France. His corpse was brought into England and interred in the chancel here, where a fine marble bust of him in armour still remains.

THE CAPETOWN COMPETITION.

It would be strange if the decision in the competition for the Law Courts, Capetown, should differ from the majority of such cases in being accepted without protest. The site was bounded by two streets. Forty-two out of the forty-four competitors placed the principal entrance in the more important Queen Victoria Street. The two who placed it in Keerom Street secured the first premium. Among the memorials from societies to Dr. Smartt, the Commissioner of Works, is the following:—

We, the President and Council of the Transvaal Institute of Architects, desire to call your attention to the following facts connected with the recent award in the above competition.

The dominant feature of the best law courts in Europe is almost universally the public entrance and the central hall leading from it, which are considered as representing the architectural expression of the dignity of Justice. The new Capetown Courts will face one fine main street and one mean back one. The problem of the plan depended, therefore, upon the choice of streets for the public entrance. All other difficulties in the plan hung in the main upon this point.

It was expressly stated, however, on the secondary conditions issued to competitors, that "Queen Victoria Street is the most important thoroughfare." We claim that this condition clearly implied that the public entrance should be in this street, and all the work of competitors started from this fixed point.

We now find to our dismay that the one design which ignored and reversed the important condition is the one awarded the first prize in the competition.

We do not for a moment impute any bad faith to the assessors, nor cast any aspersion upon the successful design, but we do seriously consider that by ignoring in the award the fair and reasonable intent of the conditions a great injustice has been done to the architects of South Africa, who, through no fault of their own, wasted an immense amount of time and money in what was an absolutely useless quest from the outset; that damage has been done to the cause of architecture and the whole system of architectural competition in South Africa, and that in this case the Government of Cape Colony has not had any benefit from the competition of architects for the new Law Courts.

We respectfully beg that this memorial may be duly considered by the Government, and its decision communicated to us.

The following is the official reply:—

Sir,—With reference to your letter of February 14 last, to the memorial subsequently received from the Cape Society of Architects, and to representations which have been put forward respectively by the Presidents and Councils of the Natal and Transvaal Institutes of Architects, I am directed to inform you that the issues involved have received the Commissioner's careful consideration.

The question now at issue arises directly from the request preferred by the Cape Society of Architects for the publication of the award of the advisory committee and the professional assessor.

The desire then expressed was that publication of the assessor's report might be made, for the reason that, having regard to the importance and national character of the contemplated building, the general public might fairly ask to be made acquainted with the grounds for the award. If, however, this view were not entertained, it was thought that the competitors, who unitedly had incurred substantial outlay in the preparation of designs, should be furnished with a copy of the assessor's report.

Publication being deemed unnecessary, the circumstances under which the decision upon the competition was arrived at were conveyed to you by letter of February 10 last.

Your reply of February 14 indicated that, in the view of the Cape Institute, the exhibition of the designs had disclosed a unique and unsatisfactory position which called for action in the interests of the whole of the profession in South Africa; and that the request for publication of the award had been preferred in the hope that by this means information would be obtainable as to the reasons which led up to it.

Failing publication, however, the Institute proceeded to formulate their objections to the confirmation of the decision on the grounds in brief that—

On examination of the original conditions, issued in May 1905, it was found that one indispensable piece of information had been omitted, viz. an intimation as to which of the streets bounding the site was the more important.

In respect to this point the memorial states:—"In view of the absence of definite information upon this and other points, a list of queries was forwarded to the Public Works Department, among them being the following:—'Which is the more important of the streets concerned, Keerom Street or Queen Victoria Street, and into which should the chief entrance open?'

"The Public Works Department replied to this query in the following terms:—'Queen Victoria Street is the more important thoroughfare.'"

In regard to the "list of queries" referred to, I am to point out that (as will be seen from the printed memorandum issued on August 24, copy of which I enclose) the particular point in question was not included amongst the queries raised by the Cape Institute.

The inquiry emanated from two individual competitors, and the fact that it was not embodied in the representations from the Institute dated August 4, 1905 (some months subsequent to the publication of the conditions), appears to be inconsistent with the claim now preferred, that on examination of those conditions it was found that information on this point, which the Institute considered indispensable, had been omitted. Under no circumstances can the reference to the relative importance of the streets be regarded, as it is termed in the memorial, "the chief of the conditions," for if this were so it is inconceivable that the Institute could have overlooked its absence in their official representations.

It is clearly to be inferred from the terms of the memorial above quoted that the point as to the relative importance of the boundary street was raised by the Institute, and it is therefore evident that some misapprehension exists, since the reference to this particular subject in the printed memorandum was solely due to the fact that, in order to insure absolute equality of treatment for all competitors, an addendum to the Institute's queries was compiled by the Department from the inquiries made by individuals.

In respect to the reply given to the particular query in question, the memorial further states, "This reply was taken to be a fair answer to the query." To this no exception is taken; but the Commissioner regrets his inability to follow the further remark, viz. that this reply was taken "to clearly imply that the chief entrance was to be in Queen Victoria Street."

The exact terms of the competitors' original inquiries were:—

> "Will you kindly tell me which is the more important street, Keerom Street or Queen Victoria Street? We require to know this so as to know which should have the most important elevation to it."
>
> "We should like to know which is the most important of the two streets, Keerom Street or Queen Victoria Street, and into which should the principal entrances open?"

And it will be seen, therefore, that the reply is strictly confined to such terms as would convey a statement of fact, which was well within the knowledge of the main body of competitors and was ascertainable without difficulty by the comparatively few who may not have possessed any acquaintance with local circumstances, and that advisedly it refrained from affording foundation for any contingent implication or deduction upon points in which it was considered essential that free scope should be left for the unfettered exercise of individual judgment.

The point which the memorial advances as practically the pivot of the whole matter was not in any way an item of the original conditions of competition, though, of course, it cannot be entirely excluded from all reference to them, since it appears in the series of replies to inquiries arising out of these conditions. These replies were not, however, as they have been termed by the Transvaal Institute, "a series of secondary conditions," but were merely replies to inquiries received; issued in a convenient form as a matter of courtesy, and circulated to all competitors alike in order to insure absolute equality.

The fact that some at least of the competitors—even though it may be a small percentage—were found to depart from the solution adopted by the majority is not without its importance as an indication that even by competitors the point was not regarded as so essential and primary a condition as the Institute now feels it to be, or that the information furnished bore, of necessity, the construction placed upon it in the memorial.

It is apparently argued that the question of design hinged upon the selection of a suitable position for the judges' rooms. In respect to this the Commissioner does not propose to go further than to point out that such a matter would be entirely one of internal arrangement, and therefore one to be left to the judgment of individual competitors. He desires, however, to reiterate that all information given was studiously avoidant of any indication of preference for any particular arrangement of the features of the proposed building.

The memorial proceeds to dissociate the Institute from casting any reflection upon the committee or assessor, an attitude which is also assumed by the Transvaal Institute, who specifically repudiate any implication of bad faith, while, as regards the value of the design both Institutes deny any desire to cast aspersions upon it. Ultimately, however, the memorial crystallises the point of the complaint in the statement that the assessor or committee has "apparently ignored the circumstances." This, it is felt, cannot be construed as otherwise than tantamount to an expression of the view that these gentlemen did not give due regard to the information upon which their judgment had to be formed. Upon this point the Transvaal Institute expresses the view that "by ignoring in the award the fair and reasonable intent of the conditions a great injustice has been done to the architects of South Africa." This is somewhat different from the view of the Cape Institute, but, taken together, the effect of the two arguments cannot be regarded as other than an expression of opinion that the body of gentlemen appointed for the deliberate consideration of the competitive designs, and contingently of all matters and documents leading up to the production of those designs, had failed to give due weight to the data placed before them.

Since any such view would project far in the direction of impugning the action of the gentlemen referred to, at least to the point of laxity or neglect, the Commissioner feels that the Institute will on consideration concur with him that any such aspect of the matter is hardly open to further discussion.

The due observance of all requirements of professional etiquette and professional practice were, it is considered, amply provided for in any respect in which non-professional experience might possibly have been lacking, and this special feature apart and upon any general issue of whatever nature Dr. Smartt feels assured that no scintilla of complaint would be justifiable.

Under these circumstances, therefore, while Dr. Smartt deeply regrets that an honourable and important section of the community should conceive that they have any cause for dissatisfaction with the outcome of the competition (the results of which, he is given to understand, have been in the highest degree creditable not only to individual competitors, but to the profession as a whole) he feels that, in the circumstances as they are now before him, and as he is not prepared to query or interrogate the decision which has been arrived at by the advisory committee, there is no direction in which further action can be taken in this matter.—I have the honour to be, &c.,

(Sgd.) Lewis Mansergh,
Secretary for Public Works.

PAULTON'S HOUSE.

A VISIT to Paulton's House, formerly the residence of Sir Hans Sloane, and now in the possession of Mr. Hans Sloane-Stanley, was permitted last week to the members of the Hampshire Field Club and Archæological Society. A paper was read on the occasion by Mr. W Dale, F.S.A., who said:—

We are here to-day by the kind invitation of a descendant of the illustrious Sir Hans Sloane, whose portrait is before you. There are three other portraits in London, one by Slaughter in the National Gallery, one by Kneller in the rooms of the Royal Society, and another by Murray in the Royal College of Physicians. The career of this famous man is so well known that I need only remind you of a few points in it. He was born in 1660, and came of an old family. In early life he was a great traveller, and all his days a collector, principally of natural history objects and books and manuscripts. As a physician he attained to great distinction in his day, and was first physician to George II. He also attended Queen Anne in her last illness, and it was by his direction she was bled, which modern doctors would probably say was the reason that there was so quickly a change in the succession. In 1727, on the death of Sir Isaac Newton, he became President of the Royal Society. In 1742 he went to live at Chelsea, where he founded the botanic gardens, which is still the property of the Society of Apothecaries, and where his name lives in the streets and squares of that neighbourhood. By his will, made in 1749, he bequeathed his wonderful collection to the nation on condition that they paid the sum of 20,000*l.* to his family. It had cost him 50,000*l.* In 1753 an Act of Parliament was passed accepting the gift. Montagu House was purchased, trustees were appointed, and so the British Museum was founded. Museums in those days were, of course, very different from what they are now, for in the first catalogue one of the objects described is "A man's breeches singed with thunder." Natural history objects are also very differently treated, and those of us who were taken as children for nature study in Great Russell Street can remember hippopotami and giraffes in a sad state of repair, with loose straws sticking out of their sides. Such things have found a home elsewhere, but the priceless books and manuscripts remain, and we must ever have in grateful remembrance the memory of Sir Hans Sloane, to whom we owe the initiation of our great national collection.

Before we separate for the purpose of wandering over this beautiful house, I have asked permission to indicate in a few sentences one or two things you should specially see. There are four pictures by Sir Joshua Reynolds, and there are two large portraits of George III. and Queen Charlotte. Our host informed me that no less than seventy-two of these portraits were painted and were placed in the various embassies, and as his ancestor was *charge d'affaires* at Paris he became possessed of a pair. In the same connection, you will also see the badge which was worn by a king's messenger. Amongst the china are some fine pieces of Sèvres and the largest Chelsea group that is known, with other valuable English china, together with some charming patch-boxes and *bonbonnières.* There is a wonderful collection of watch-dials, some of them probably dating from the time when the watch was first made at Nuremberg, early in the seventeenth century. The case of snuff-boxes is unique, for Mr. Stanley only collects those that have a royal head upon them. There are many Stuart or Jacobite relics, and especially some fine Jacobite glass. Mr. Albert Hartshorne has published a book upon "Ancient Glasses," and devotes an entire chapter to the Jacobite glass, which all belongs to the earlier part of the eighteenth century. You will see a very fine example of one of the portrait-glasses of the Young Pretender, with air twisted stem. There is a fine series of leathern black jacks, some silver-mounted and some good pewter. Pewter has of late gone up greatly in value and is much prized. The pewter here is some of the best that was made, for it bears the London hall-mark of Pewterers' Hall, viz. the Cross with the Crown over it, and I am inclined to assign it to the seventeenth century. I refrain from dealing with the furniture, but merely mention that there is a remarkable set of Queen Anne dining-room chairs and a carved oak sideboard of 1603, quite perfect and untouched by paint or varnish. I must not omit the inevitable "Bellarmine" jug which is here well represented. These were first made in the Netherlands in the sixteenth century, and the human face upon them is said to have been designed by the Protestant party as a burlesque likeness of their great opponent, Cardinal Bellarmine. They were subsequently copied and largely made both on the Continent and at Fulham. In conclusion, he said they were all very much obliged to Mr. Hans Sloane-Stanley for affording them the opportunity of inspecting his rare collections.

The visitors were then permitted, says the *Hampshire Advertiser*, to roam at their own sweet will over the house, which is a veritable museum of priceless treasures of art and *vertu*.

ROMAN ROAD, BLACKSTONE EDGE.

On Saturday the Manchester Branch of the Classical Association visited Blackstone Edge in conjunction with the Roman antiquities committee of Yorkshire. It would be difficult to imagine, says a correspondent of the *Manchester Guardian*, a more suitable spot where antiquarian societies from the two counties might join hands. The Roman road, which it was the object of the excursion to examine, crosses the county boundary on the top of the Pennines, which here reach a height of close on 1,500 feet. Whether this road is the finest specimen of a Roman road now remaining within the limits of the Empire or no, it was at any rate selected to form the single illustration of the article on the roads of the Empire in the last edition of Smith's "Dictionary of Greek and Roman Antiquities." It is interesting to remember also that a coloured picture of this remarkable causeway forms the first illustration in the first volume of the "Proceedings of the Lancashire and Cheshire Antiquarian Society," and that this Society arranged in its year of inauguration to pay two visits to Blackstone Edge to examine the relic. In the course of the discussions which took place on these occasions Professor Boyd Dawkins (who was then president) pointed out that the question that arose before any other was whether it was a Roman road at all. This question is still an open one, for nothing has been discovered during the twenty-three years that have elapsed to overthrow any rival theories that have been advanced. The great concensus of opinion, however, is strongly in favour of its Roman origin, and the battle of discussion rages chiefly around the remarkable trough which runs down the centre of the road. There were counted no less than twelve theories that have been advanced to explain the existence of this trough.

Those who visit the road by way of Littleborough should not fail to notice the fragment (whether *in situ* or not can only be determined now by excavation) which may be seen near the door of the little roadside inn at Lydgate. By following the wall for about 200 yards past the old oil mill a little further ahead another fragment of the road may be picked up. The causeway is then lost on the open moor for some distance till it is seen cutting its way straight over the steep face of the Edge into Yorkshire, with a gradient in some places of nearly one in four. The road is here 18 feet wide, the ashlar paving is exceedingly well preserved, the camber of the surface is easily seen, and the central trough is so well shown that one might imagine that the stones (many of which must weigh nearly half a ton) had been chiselled out within the last century. Near the summit a modern conduit has been cut right across the Roman road, which appears again, however, higher up, and at this point, just over a week ago, a very interesting discovery was made by Mr. W. H. Sutcliffe, of Littleborough, whose name in connection with the antiquities of the district will be familiar to readers of the recently issued volume of the "Victoria History of Lancashire." Mr. Sutcliffe's discovery, which consisted in the uncovering of stone foundations at the highest point of the road, no explanation of which has so far been forthcoming, added to the interest of the visit of the two societies on Saturday, but it did not prevent the visitors from devoting a large share of their attention to the famous central trough, which is a feature of the road on both sides of the Edge.

The causeway lies in the line of the road that ran (and may still be traced) from Manchester to the Roman station at Ilkley, and the section under consideration can be followed for about two miles. The fullest examination of the causeway has been made by Dr. Colley March (his measurements have recently been confirmed by Mr. Sutcliffe), and his theories as to the object of the trough are therefore most worthy of attention. They are, moreover, supported by the opinions of a number of other antiquarians. The suggestion is that the central trough acted as guide to a skid or sledge, which was used to brake the vehicles as they descended the incline. Whether the skid took the form of a sledge or a two-wheeled trolley (suggested by the double grooving of the trough), or whether the vehicle itself carried a central wheel and whether a chain or rope was worked from the top of the hill—these are questions on which the theorists have rung the changes and may safely continue to do so. One pertinent question arises, however, to which classical scholars to-day should be able to give some answer. Are we justified in supposing that the sufflamen, or "drag," referred to by Juvenal and other classical authors, ever took the form suggested by this theory?

The trough is not the only interesting feature of the causeway. Dr. March made out—and his observations were confirmed by a no less careful observer than Watkin—that the road showed what seemed to be five parallel pairs of ruts, each pair giving a gauge of 4 feet 6 inches. This is exactly the gauge which Mr. Kirk discovered in 1885 when excavating the Roman road running through Delamere Forest, and it is worthy of notice that between the wheel ruts in the forest Mr. Kirk found a trough some 10 inches deep, which it was conjectured had been worn by the horses. Approximately the same gauge is found marking the gateways of two Roman forts in Britain, and also in the streets of Pompeii, and it differs by less than 3 inches from the gauge of the old stage coach, which is still retained on our railways and tramways.

There are two other points of interest that arise, one bearing especially upon a road crossing a stretch of uninhabited country. Apparently no traces have been found in Britain, so far, of the halting-places or changing stations (*mansiones* or *mutationes*) which studded the roads of the Empire and made possible the perfect system of posting which was one source of its strength. No one can say, however, what light might be thrown on these and other questions by a systematic excavation of the remarkable stretch of road here referred to. The other question has reference to the particular forms of vehicles which traversed these roads, and whose wheels made the impressions on them which still remain. It is quite possible that the depth of the ruts found on the pavement of the Roman roads is partly due to the rude construction of some of the heavier vehicles. The wheels of the plaustrum, or cart, for example—to which Virgil makes several references, speaking of the "slowly rolling carts of Mother Ceres," and in other places of the "creaking" and "groaning" of the axles—probably consisted each of one disc of wood nearly a foot thick. The wheel ruts on the Blackstone Edge Road, however, were made by much narrower tyres. The Romans found several different forms of vehicles in use among the Britons when they came, and chariots of the same form as those found in Britain were actually used in Rome by the leaders of society. It has been conjectured that at least five or six different forms of carts and chariots may have been employed by the Romans in this country. It is quite possible that the future excavation of Roman sites, whose soil is of a nature that preserves wood (Melandra is a case in point), may give us definite information on this interesting question.

The visit of the two societies to Blackstone Edge on Saturday was rendered more interesting and pleasant by the sections and drawings supplied by Mr. Sutcliffe, by his kind hospitality and by the paper he contributed on the subject of the road.

THE JACOBSEN COLLECTIONS AT COPENHAGEN.

Visitors to Copenhagen have long been familiar with the collections of modern and of ancient sculpture formed by Dr. Carl Jacobsen and accessible to the public—the one in the New Carlsberg Glyptotek and the other near his own house in the south-western district of the city. The two collections, says a correspondent of the *Scotsman*, are now united, and the ancient sculpture as well as the modern has been presented by its owner to the nation. A new museum for its reception, from designs by the Danish architect Kampnidian, has been built behind the New Carlsberg Glyptotek, the cost of this having been in part borne by the State, but in part by Dr. Jacobsen, who has presented a fine "Fest-Halle" of marble to be the centre of the group of galleries. On June 27 the completed building with the two collections were to be opened and formally dedicated to the public use.

Such a collection of sculpture as Dr. Jacobsen has formed during the last five-and-twenty years demands not only a genuine artistic enthusiasm, but also taste and connoisseurship. Dr. Jacobsen's knowledge of ancient sculpture is very considerable, and he has from this point of view fully won his right to the position of director of the museum, which he will henceforth hold. The taste that has directed the formation of the collections is a catholic one, and there is really no museum in Europe where there are provided such facilities as in the Carlsberg Glyptotek for the study in the same building of characteristic examples of ancient and modern sculpture. The modern section contains many of the most representative pieces of the leaders in this art in our own day, such as Rodin, Meunier and others, and a comparison of their aims and methods with those of the Greeks is at once instructive and mentally enlarging. In the open air, in a space to be laid out at the rear of the museum, the visitor will see a bronze replica of Rodin's effective group of "The Burghers of Calais," the original of which stands just outside the town of Calais on the side towards the land. Near it will be replicas of Constantin Meunier's "Iron-Worker," and of the same artist's "Sower," while the galleries of the Glyptotek itself are filled with casts or bronze and marble replicas of works by the artists already mentioned, and by sculptors such as Barrias, Falguière, Guillaume, and other representatives of "modernité" in the plastic art. On the ancient side, moreover, not only is Greek sculpture represented, but also Roman, for a large section of the museum is devoted to a collection of Roman portrait busts, male and female, many of which show that excellence in the display of individual character for which such works are distinguished. There are, indeed, putting the Louvre and the Vatican out of the question, few better iconographic collections anywhere to be seen. There is also a good display of Etruscan art, some pieces of which, notably a group of small pediment figures in coloured terra-cotta, are of great rarity and interest. This collection was chiefly formed in Rome by the well-known archæologist, Wolfgang Helbig, and it embraces also a large number of carefully-executed copies on a large scale of the best Etruscan wall-paintings, from tombs in Corneto and elsewhere, the originals of which are not easily accessible and are in process of decay. Egyptian sculpture, moreover, has some rooms in the new museum devoted to it, and one or two bronzes here are of special merit.

The main part of Dr. Jacobsen's collection consists, of course, in antique marbles and bronzes, and he has been fortunate in having had opportunities for making acquisitions which are not likely to occur often again. Archæologists will welcome with special satisfaction the appearance in the Copenhagen Glyptotek of the very important early Greek bronze figure known as the Sciarra statue from the collection of the noble of that name in Rome. This small figure, which wants the left arm, is one of the few examples now known of a school and period that were among the most important in the annals of Hellenic art. It has long been recognised that the supreme merit of the Athenian sculpture of the days of Pericles was due to the happy blending of Dorian simplicity and strength with the sense of beauty, the richness and the vein of feeling which were an inheritance that Athens owed to the Ionian school of sculpture. Phidias himself was said to have been a pupil in the workshop of the Argive master, Ageledas, and it is of interest to know the exact kind of influence to which he would be subjected in such a centre of Dorian art. The Sciarra bronze is one of a few original pieces in different collections which are held to represent the Argive or Peloponnesian art of this particular period, and its archæological value is accordingly very great. A number of Greek heads representing, mostly in original works, several interesting schools and tendencies in ancient sculpture will well repay study, and the department of sepulchral sculpture, where again we are dealing wholly with originals, contains some charming pieces. A singularly well-preserved Hellenistic bronze Herakles is also prominent. The lover of antique art will probably, however, be chiefly attracted by the two fine marble statues of poets from the Borghese collection, which are undoubtedly the gems of the museum. One is the fine standing figure holding the lyre known as "Anacreon," the other the seated figure of a poet, distinguished by its refinement and warmth of feeling. In these works we have an example of the expressive side of Greek plastic art. The seated poet is instinct with intellect and feeling, while "Anacreon" is aglow with lyric fervour. Yet how controlled is the expression, with what suavity do the lines of the composition combine to impart to each piece a look of completeness and repose.

How different were the laws which the Greek bound himself to observe from those which guided Rodin, let us say, in his group of "The Burghers of Calais." The modern artist has cared little for the pure beauty of line in drapery or the full contour of well-nurtured elastic human flesh, so dear to the Hellenic eye. On the other hand, with infinite art he has so composed his group that, from whatever point of view we regard it, there is something to arrest the gaze—some weird face, some dramatic gesture, some tell-tale falling-in of the weeds that cling to the emaciated forms. One would say that the ugliness of gnarled joints and bony angularities had been deliberately emphasised to heighten the tragic horror of the group. The modern work is more direct in its appeal, and in the superficial aspect more real and living than the Greek, but then its effect is comparatively soon exhausted. Of the more profoundly studied and more evenly balanced antique masterpiece we can never exhaust the interest. Its very reticence and control make it the more pregnant with meaning. The longer we live with it the more we see in it of beauty and suggestion.

Reflections and comparisons of this kind are inevitably suggested by any comprehensive survey of the plastic art in its older and more modern forms, such as is afforded by the Jacobsen collection. The productions of sculpture are less generally popular than those of painting, and we should be all the more grateful when these productions in their best and most typical forms are placed before the public in such an attractive setting as the munificence and good taste of a private citizen have provided for them in the new Copenhagen Museum.

AMERICAN SOCIETY FOR TESTING MATERIALS.

THE ninth annual meeting of the American Society for Testing Materials was held at Atlantic City on June 21-23. The following remarkable series of reports and papers were to be read:—Memoirs of deceased American investigators who have contributed in a marked degree to the advance of the testing of materials, Report of committee on standard tests for road materials, The development of the test for cementing value of road materials, Notes on the hardness and abrasion tests of road materials, Report of the committee on standard specifications and tests for sewer pipes, Report of the committee on fireproofing materials, Report of the committee on standard specifications for the grading of structural timber. The subject of the annual presidential address was—The American Society for testing materials: its past and future, The national bureau of standards, Concrete column tests at Watertown arsenal, Some effects of earthquake shock and fire on materials and buildings at San Francisco, The corrosion of steel as affected by its chemical composition, Electrolytic corrosion of steel, Report of the committee on the heat treatment of iron and steel, The effect of heat treatment on high carbon steels, The beneficial effect of adding high-grade ferro-silicon to cast-iron, Report of the committee on reinforced concrete, Tests of reinforced concrete beams, Notes on the compression tests of cement, Consistency of concrete, Present status of our knowledge in regard to the constitution of Portland cement, Progress made in the investigation of structural materials during the fiscal year ending June 1906, Report of the committee on standard specifications for iron and steel, Experiments on the segregation of steel ingots in its relation to plate specifications, Fire-box steel—failure and specifications, Report of the committee on preservative coatings, Protective coatings for the preservation of steel, Practical testing and valuation of japan, Testing of shellac varnish, Report of committee on standard specifications for cast-iron and finished castings, Report of the committee on standard specifications for foundry coke, Some results of the Government fuel tests at St. Louis, Report of the committee on standard specifications for staybolts, Report of the committee on uniform speed in commercial testing, Report of the committee on the tempering and testing of steel springs, Report of committee on uniform specifications for boilers, Tension tests of steel angles, Investigation on the conductivity of concrete and the effect of heat upon its strength and elastic properties, The determination of the specific gravity of cement, A new device for the mechanical sifting of concrete aggregates, Relation between some physical properties of bitumens and oils, Proximate composition and physical structure of Trinidad asphalte, with special reference to the behaviour of mixtures of bitumen and clay, Some sand experiments relating to the percentage of voids and tensile strength of cement mortars.

Report of the committee on waterproofing materials, Some mistakes in waterproofing, Methods of testing cements for waterproofing properties, Report of the committee on standard methods of testing, New features of two large testing machines, The Purdue University impact machine, Report of the committee on the magnetic testing of iron and steel, Complete equipment for magnetic testing, Mechanical experiences with limber and stiff rail sections, Effect of combined stresses on the elastic properties of iron and steel, Tests of metals in reverse torsion, Additional data on the Rattler test for paving brick, as disclosing the limit of permissible absorption.

BRITISH FORESTRY.

IN the House of Commons Mr. Herbert Roberts lately asked what steps have been taken to carry into effect the recommendation of the departmental committee of 1902 on British forestry, and whether any communication ha been addressed to corporations and municipalities relative to the committee's recommendation as to the desirability of planting with trees the catchment areas of their water supply. Sir E. Strachey, in reply, says :—(1) The departmental committee recommended that the Alice Holt Woods, in Hampshire, should be made available as soon as possible to serve as a demonstration area in England. This has been done. A full report as to the past history, present position and future management of these woods has been prepared by Dr. Schlich at the request of the Commissioners of Woods and Forests, and the recommendations made therein are being systematically carried out. A certain amount of experimental planting has already taken place. Copies of Dr. Schlich's report, illustrated by plans, can be had on application to the Commissioners. It was also recommended that a suitable estate should be purchased in Scotland to serve as another demonstration area. Several properties have been brought to the notice of the Commissioners of Woods and Forests, but for various reasons they did not appear suitable for the purpose. Two additional properties are now under consideration, and as soon as a suitable estate has been found the Treasury will be approached with a view to purchase. (2) The recommendation of the departmental committee that lecturers should be appointed at Oxford and Cambridge has to some extent been met by the augmentation of the salary of the Sibthorpian professor of rural economy at Oxford, who is now professor of forestry botany. It is understood that an estate will be placed at his disposal for demonstration purposes. (3) A sum of 500*l.* a year which was placed by the Treasury at the disposal of the Board for the establishment of lectureships in forestry has been allocated to the University College of North Wales at Bangor and the Armstrong College at Newcastle-on-Tyne. The results have been most encouraging. A considerable number of students have been found desirous of taking a full collegiate course of study, good classes of practical foresters and others have been conducted at selected local centres, while there has been a constant demand on the part of landowners for expert advice from the lecturer. (4) A school for working woodmen has been established by the Commissioners of Woods and Forests in the Forest of Dean, and is now in the third year of its existence. From eighteen to twenty youths are receiving instruction. (5) Legislation would be necessary to remove the inequality in the levy of the estate duty on timber, and it has not been possible hitherto to take any steps in this direction. The matter has, however, not been lost sight of. (6) The Railway Fires Act, 1905, which comes into force on January 1, 1908, will give some protection to owners of woods against loss by fire caused by sparks from locomotives. (7) Special inquiries were made in 1905 with a view of ascertaining the extent of land now occupied by woods in Great Britain, and the results have been published in the agricultural returns for that year. The three categories suggested by the departmental committee were adopted. (8) With the object of ascertaining the districts in which local authorities have developed the catchment area of their water supplies by afforestation, the Board communicated with the Local Government Boards for England and Scotland, who sent out a circular letter to all local authorities asking for a return. The results were tabulated and published in the Journal of the Board of Agriculture for November, 1904. A leaflet on the relation of woods to domestic water-supply was published in January, 1904, and a large number of copies have been issued. The Board are keeping the various recommendations of the departmental committee steadily in view, and they hope to be able from time to time to proceed further in the directions indicated in their report.

BUILDING IN NEW SOUTH WALES.

IN the report of the Government architect, Mr. W. L. Vernon, for the year 1905, it is recorded that an important addition was made to the work of the branch by the transfer to it of the architect's branch of the Department of Public Instruction engaged in the erection, improvement and repair of school buildings, of which there are upwards of 4,000 throughout the State. This entailed some rearrangement with regard to the *personnel* of the staff thus brought over, and every effort was made to avoid injustice or hardship to these officers. It has resulted, as was anticipated, in a considerable modification of the cost of the preparation of smaller works and the inspection thereon in the country districts, whilst the existing drafting office staff at the head office is available for all metropolitan and the larger class of school works. I have endeavoured from the outset to render efficient and satisfactory services to the Department of Public Instruction, and, as soon as the somewhat different modes of practice are brought into line with those of this department, I have reason to hope a satisfactory result in all respects. Mr. Wigram, the architect in charge, was transferred at the same time, and his intimate knowledge of school work has fortunately been available.

A portion of the branch has been kept fully employed in satisfying the requisitions and instructions of the Department of Home Affairs of the Commonwealth Government. In this case also (as in the schools) my officers and myself have done our utmost to satisfy the instructions, and I am in a position to state that the work carried out is of a satisfactory and substantial character, and at a cost governed by the keenest competition, excepting in the smaller works, which have been entrusted to Mr. King and his experienced staff in the Government architect's yard. The branch has, in agreed upon commission, earned this year 2,465*l.*, which is placed to the credit of the salaries list. Representations were made with the view of reducing, if possible, the unnecessary amplification of small requisitions, and a correspondence has been carried on and interviews held with the inspector-general of works for the Commonwealth, with the view of accomplishing this object. The same difficulties had to be met in dealing with the payment of claims either by contract or day-labour accounts, or for stores issued or goods purchased from merchants, and in this again an endeavour has been made to simplify the procedure.

During the year a special committee was appointed to deal with the safety of theatres and buildings of public resort and with the recommendations of licenses. The Government architect and the principal assistant architect (Mr. McRae) were made members of the committee, and the latter has consequently been much engaged in attending to this special work. It involved the measurement and preparation of plans of all the metropolitan and Newcastle theatres, and special investigation and report upon upwards of 300 buildings of entertainment throughout the State. Considerable negotiation has consequently taken place with the proprietors of these buildings, and a reference to the committee's report will show that the general subject has been sufficiently brought in hand to admit of recommendations with regard to further legislation.

This branch has also undertaken the administration of the recently passed Scaffolding and Lifts Act, and one inspector (Mr. Fildes) was appointed by the Public Service Board to undertake the work, assisted by two officers detailed from the branch, whose services are therefore no longer available in connection with building operations. Under the Act the Government architect is appointed arbitrator, in cases of appeal by owners and contractors, against the requirements of the Act. I have in consequence been called in on various occasions to give a decision with regard to the construction of lifts, but, so far as the compliance with the regulations of scaffolding is concerned, I have the pleasure of stating that there has been little or no necessity for my services.

The inspector of scaffolding and lifts reports as follows :—

"During the year 1,267 notices stating intention to erect scaffolding were received, which means that approximately 6,200 inspections were made. The regulations now in force were not gazetted until January 20, 1905, and prior to this date the inspectors were put to considerable trouble in getting scaffolding erected to standard dimensions, but since the gazettal of the regulations this matter has been greatly facilitated, resulting in no appeals being made, and a marked improvement in the class of scaffolding used throughout the district. There have been recorded nine fatal accidents and twenty casualties on buildings in the twelve months, but no fatality and only one casualty was attributed to defective scaffolding, and in this case the workmen injured erected the scaffolding without the knowledge of the inspectors or the authority of their employers. I must here acknowledge the great assistance which Messrs. Burns & Little have given me in carrying out the inspection of scaffolding. The number given of scaffolding inspections made does not imply but half the work done. The lists regularly received from the Water and Sewage Board and the Sydney and North Sydney Municipal Councils give us the addresses at which building operations are being carried on, and among these there are many scaffoldings and much gear used and inspected for the erection of which it is not compulsory to give notice to the inspector. The number of lifts in commission totals 613, upon which over 1,600 inspections have been made. The majority of these lifts were erected prior to the Act coming into operation, and the greater number, particularly 'goods lifts,' have been erected without that due regard for the protection of life and limb which this class of machinery demands. This fact has necessitated great alterations being made to them, and since January 20, 1905, when the present regulations were gazetted, further precautionary measures of a structural nature are being insisted upon, which cannot help but to greatly minimise the risk of accident which is attendant on these machines. The inspector has had considerable difficulty in impressing upon owners and users of lifts the dangerous nature of these machines, but when pointed out no great difficulty is experienced in insuring compliance with the regulations. The number of notices received for the erection of hydraulic lifts is forty-two; electric lifts, twenty-nine; other power, six—making a total of seventy-seven new lifts. Twelve appeals have been heard and determined, covering thirty-five lifts. Five fatal and several minor lift accidents have occurred, but in each case it was proved to be through the injured one's own carelessness. Eleven steam cranes have been erected, upon several of which additional safety precautions have been insisted upon, and I purpose drafting and submitting regulations governing the construction and use of these machines, 'Alabamas,' and steam hoists for building purposes."

Another change was commenced with respect to the transfer of the lighting of public buildings in the city to the new electric works of the City Council. This has necessarily been a long and costly work, entailing practically new installations in the buildings themselves. Mr. Raw's time has been much occupied with this matter, and it is with regret that I have to refer to the necessary inevitable discharge of the staff of electricians, engineers and firemen from the temporary stations, which will, as soon as possible, be dismantled, and the cost of lighting transferred to the votes of the several departments occupying these buildings.

A further addition was also made to the work of the branch in the retransferring to it of building matters in connection with the lighthouses and pilot stations on the coast from Point Danger to Green Cape. It may be interesting to note that prior to the year 1890 these services were rendered by this branch, and were then transferred to the harbours and rivers branch. I have entrusted the immediate supervision of these works to Mr. Drew, whose thorough knowledge and experience should be an assurance that this highly technical class of work is still in good hands.

On the absorption of the schools' work, before referred to, a most important change was made with regard to the supervision of works in the country districts, with the view of diminishing the cost of country inspection if possible. The assistants to the district architects were withdrawn, the office at Grafton was closed, and its work transferred to that at Armidale, while regulations were formed under which the inspection of works contracted for was entrusted to the various district works officers stationed throughout the State.

The Palais de Justice, Paris, is to be enlarged and the houses required for the purpose are to be obtained without delay.

GENERAL.

An Exhibition of etchings by Mr. Frank Brangwyn is now open at the Salle de l'Art Décoratif, in the rue Laffitte, Paris. It contains about forty examples of the artist's work, including his "Building of the New Museum, South Kensington."

The Lord Provost's committee of Edinburgh Town Council, who have had under consideration the proposed site for a municipal art school, recommend that a portion of the ground now occupied by the cattle market at Lauriston should be granted by the Council as a site for the buildings, and that Mr. Morham, the city architect, be instructed to mark off about 1½ acres in extent with a view to its selection being approved by the Council.

When the Baths and Gymnasium provided by Mr. Andrew Carnegie for Dunfermline, at a cost of 40,000*l.*, were approaching completion, two panels illustrative of the objects of the institution were placed at each side of the main entrance. The Carnegie Dunfermline Trust, however, organised a competition among several senior South Kensington students. The building has now been adorned by new panels in bronze executed under the superintendence of Mr. R. Goulden, A.R.C.A., Chelsea, the successful artist. The subjects represent "The Angel of Purity guiding the Steps of Children" and "Moral Strength repelling Sloth or Evil."

The Edinburgh Dean of Guild Court has granted a warrant for the erection of the drawing classrooms at Heriot's Hospital at the northern boundary of the grounds. The building, which will be of one storey, will be 160 feet long and 33 feet broad.

The Honorary Secretary to the committee of the Manchester War Memorial Fund has received a communication from Mr. Hamo Thornycroft, R.A., the sculptor to whom the commission for the commemorative statue has been entrusted, informing him that the group is finished in plaster and ready for the bronzefounder to cast. Mr. Thornycroft expects that the whole will be ready for fixing in six months' time. He furnishes the following description of the memorial:—"It consists of a group of two soldiers as in the midst of a hand-to-hand fight; one of them down on the ground wounded, resting on one hand, while with the other he hands his last cartridge to his brave and stalwart comrade, who stands above with firmly planted feet and tightly gripped rifle in the action of defence. The figures are larger than life—what is known as 'heroic' size, about 6 feet 8 inches—and are placed on a rocky plinth about 2 feet 6 inches deep, so the whole group is about 9 feet in height. This will be placed on a granite pedestal, which will be enriched with panels inscribed with the names of the men of the Manchester regiments who fell in the late war."

M. Adolphe Thiers, architect, has obtained the prize founded by the late M. Bartholdi for his design in the Salon of a structure at the confluence of two rivers.

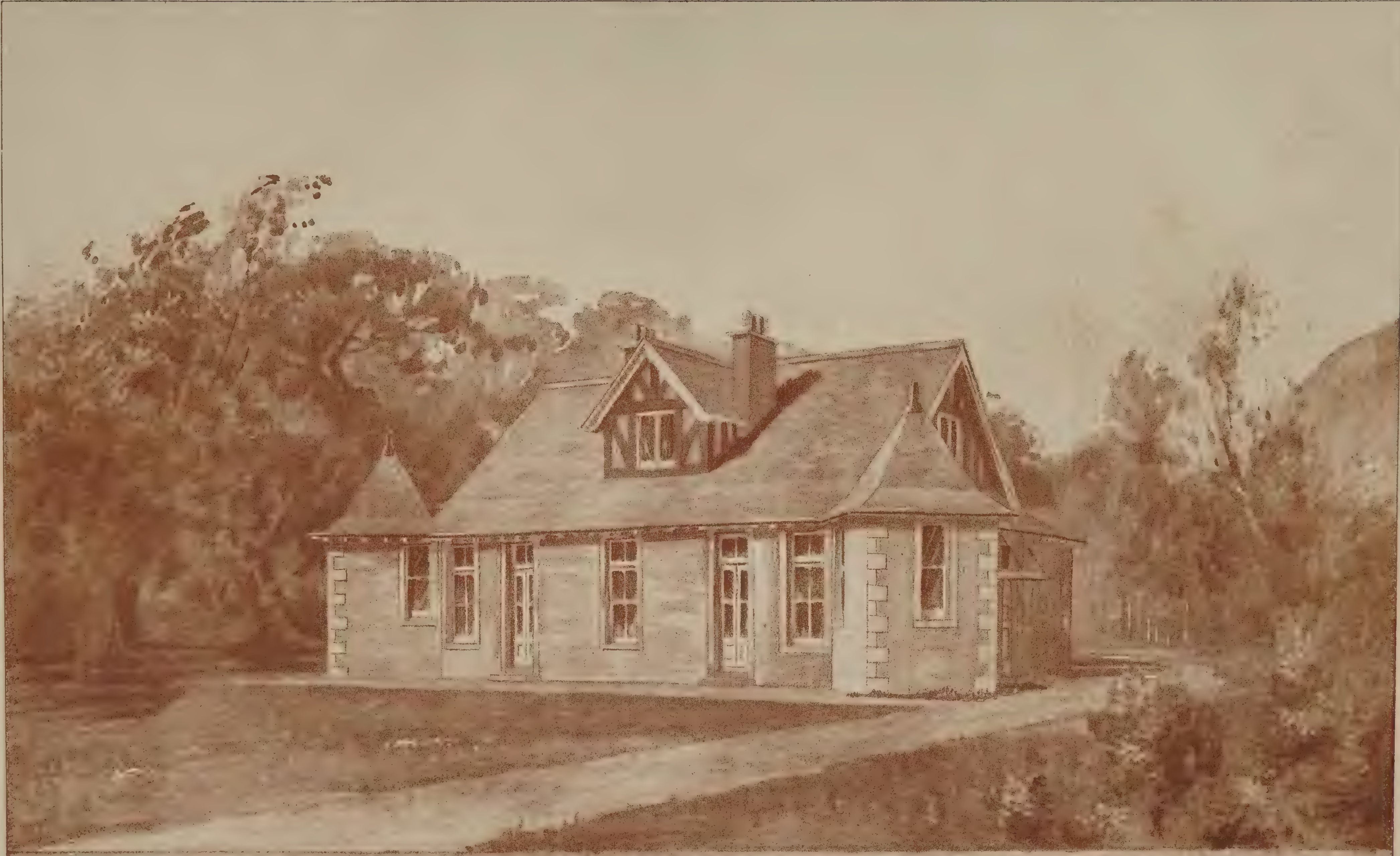
The British Archæological Association will hold its annual assembly in Nottingham during the last week of July. This is the first time the Association has paid a visit to Nottingham, and arrangements are being made for a thorough examination of the chief antiquities of the neighbourhood. The president of the Association is Mr. Charles E. Keyser, F.S.A., of Reading.

Mr. Horniman asked the Prime Minister in the House of Commons whether he would consider the advisability of so altering the terms of the appointment of the new director of the National Gallery as to give greater facilities for the rapid acceptance or purchase of pictures, so that donors might not be discouraged by delays and money wasted by the pictures not being bought until after they had been sold by the original owners. Sir H. Campbell-Bannerman in replying said:—The present director of the National Gallery has been appointed on the same terms as his predecessor. The expediency of modifying the status and power of the director is receiving careful consideration.

The Prix Charles Blanc, of the value of 2,400 francs, has been divided this year among M. Gualtier, for his essay on "Le Rire et la Caricature," M. Bréhier for his "Christian Basilicas," and M. Bertrand for his "Versailles."

The Secretary of the Institute of Architects in Ireland denies that the new conditions of contract were adopted without consultation with the Builders' Society.

The Local Government Board have sanctioned a loan by the Essex education committee of 2,143*l.* for the purpose of enlarging the Staples Road Council schools, Loughton.



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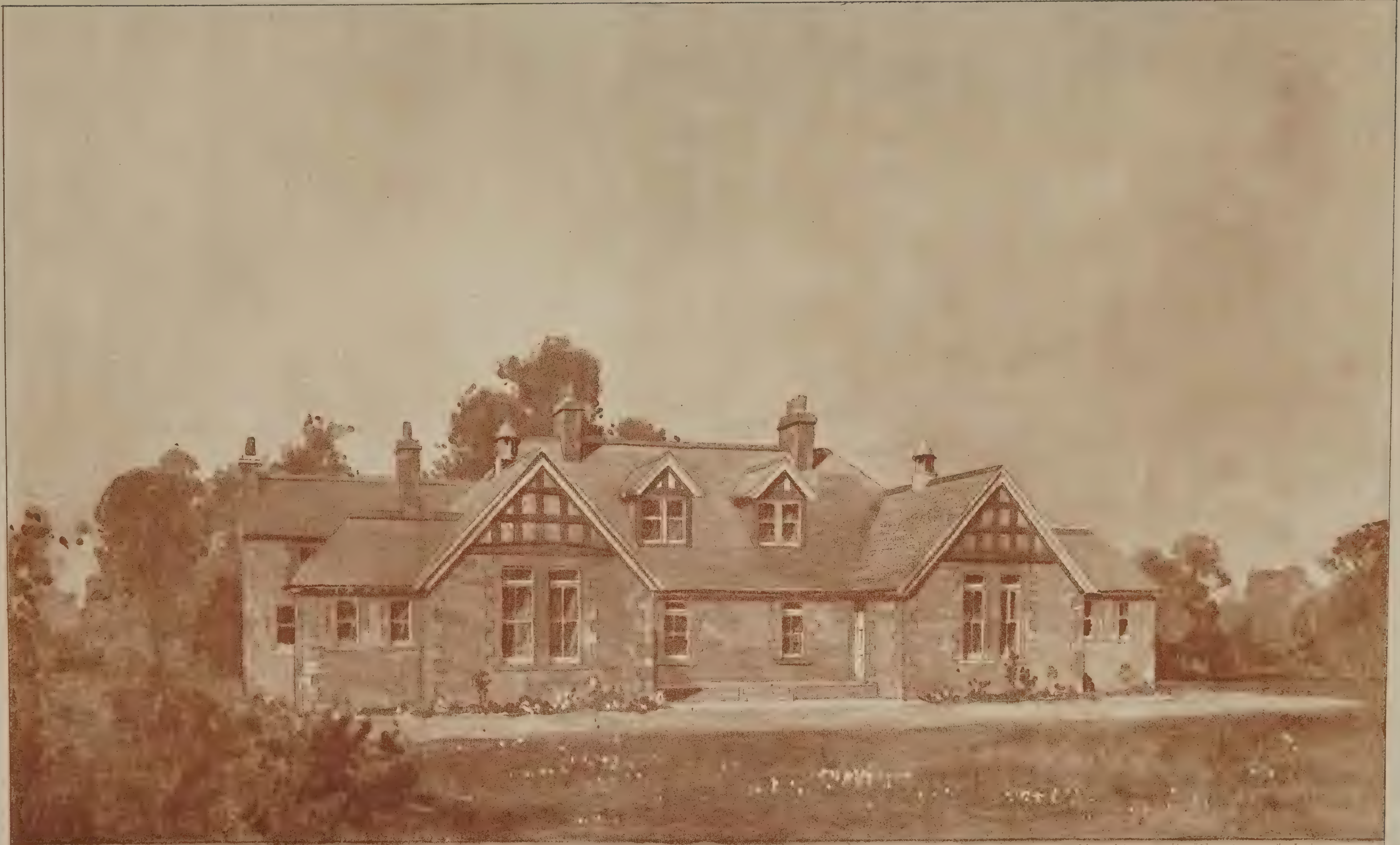

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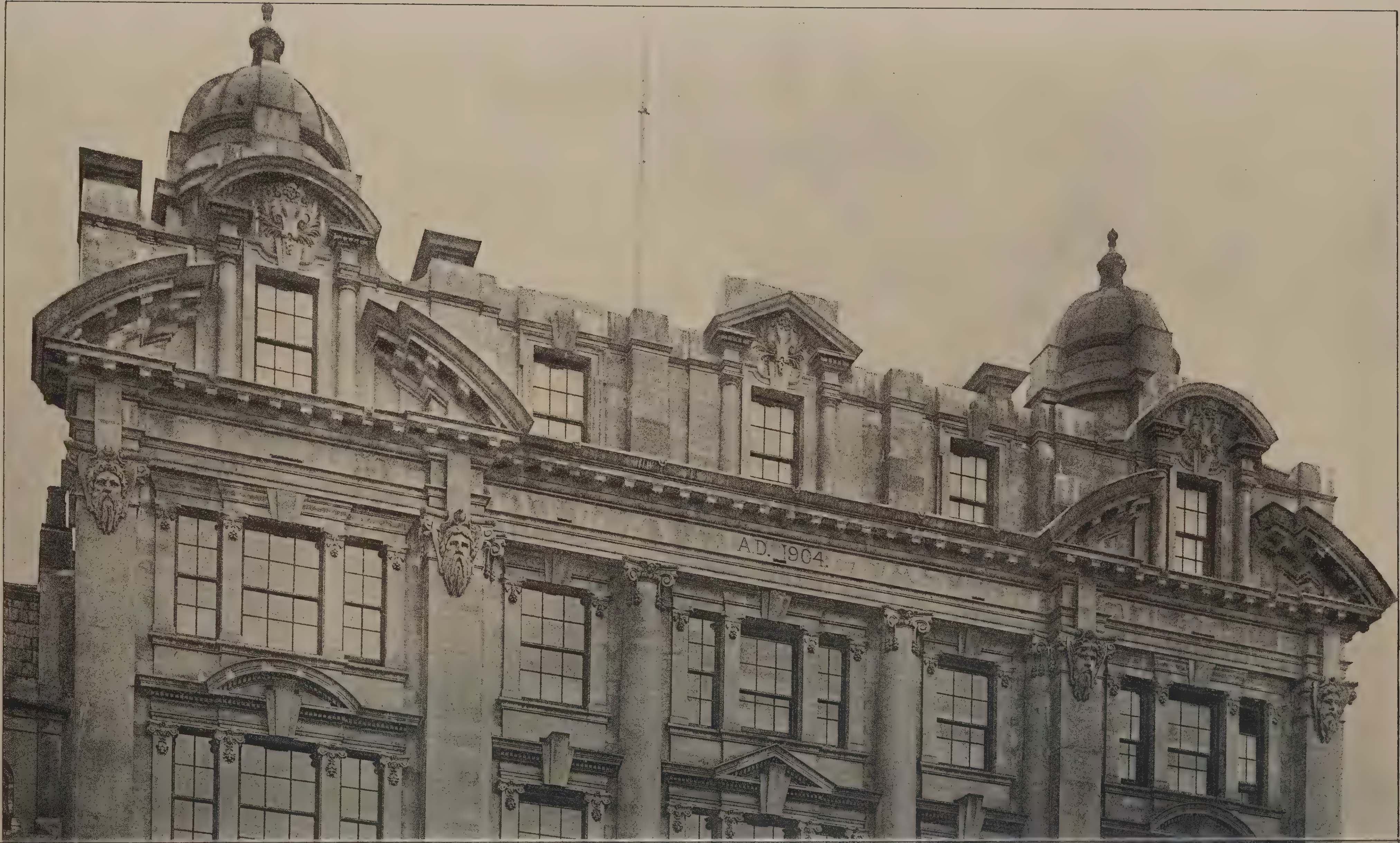
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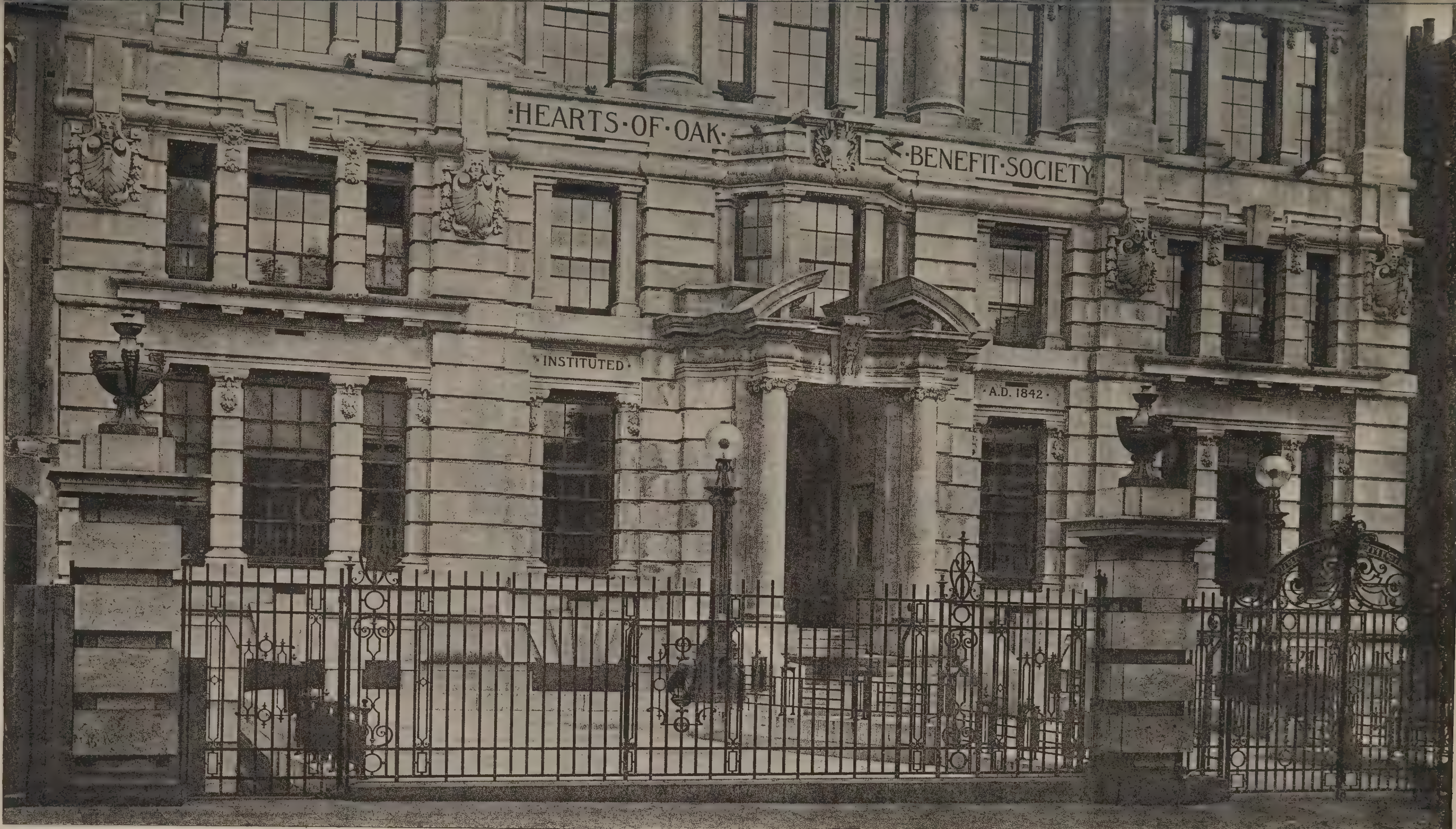

PHOTOGRAPHED BY ERNEST MILNER, THE GROVE, WANDSWORTH, S.W.

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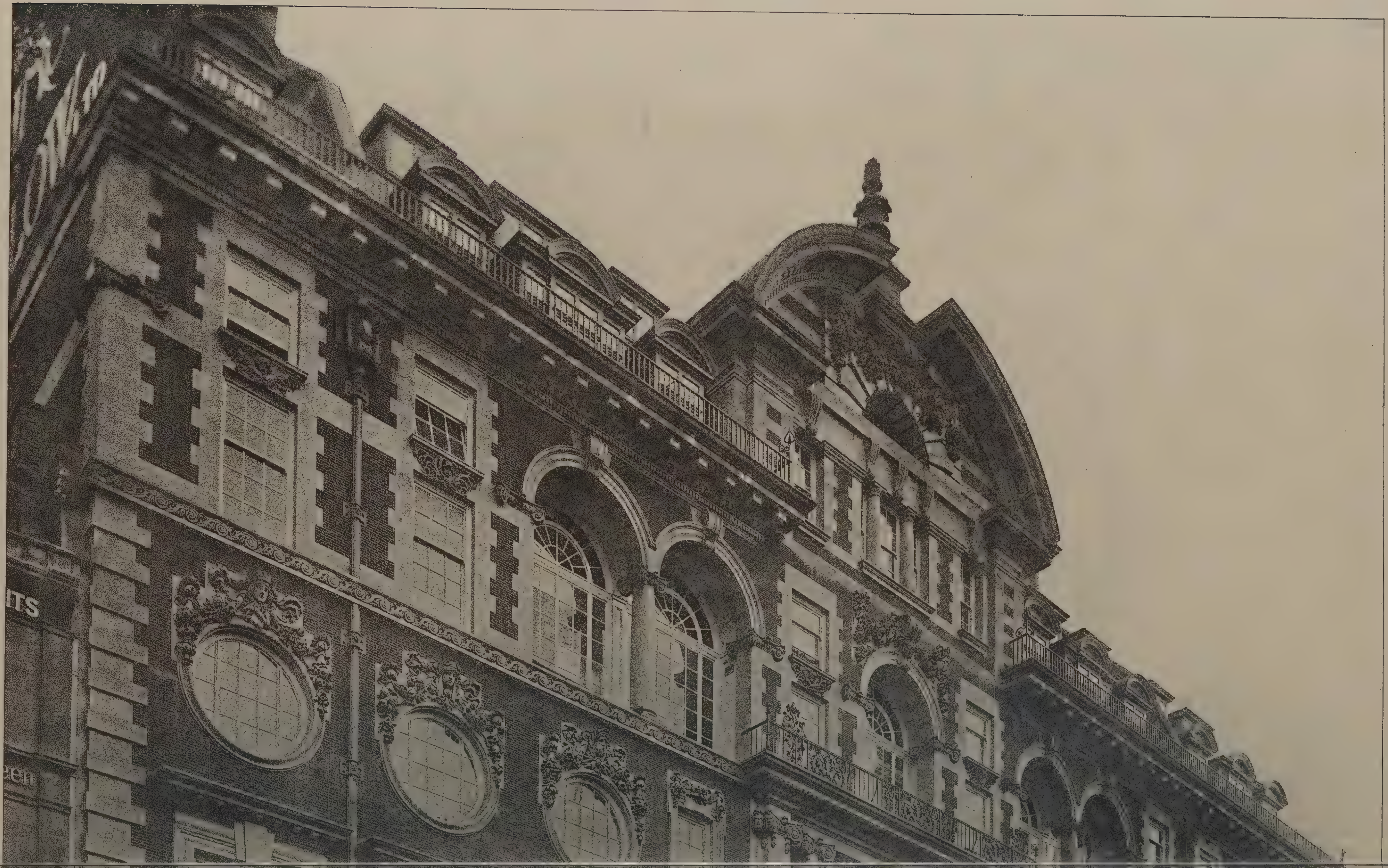
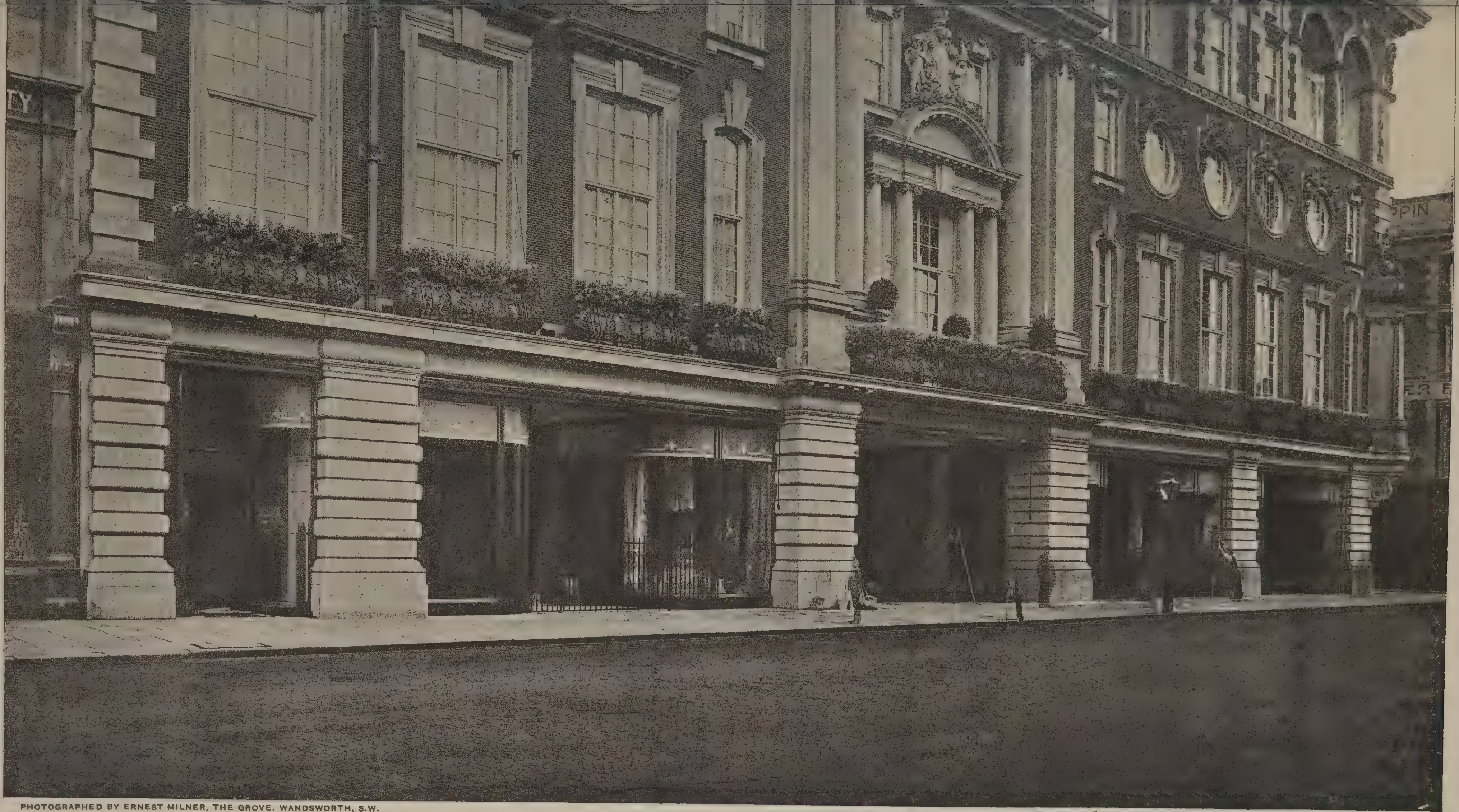
NEW OFFICES FOR THE HEARTS OF OAK BENEFIT SOCIETY, EUSTON ROAD, N.W.

Messrs. ESSEX, NICOL & GOODMAN, Architects.

The Architect, June 29th 1906.





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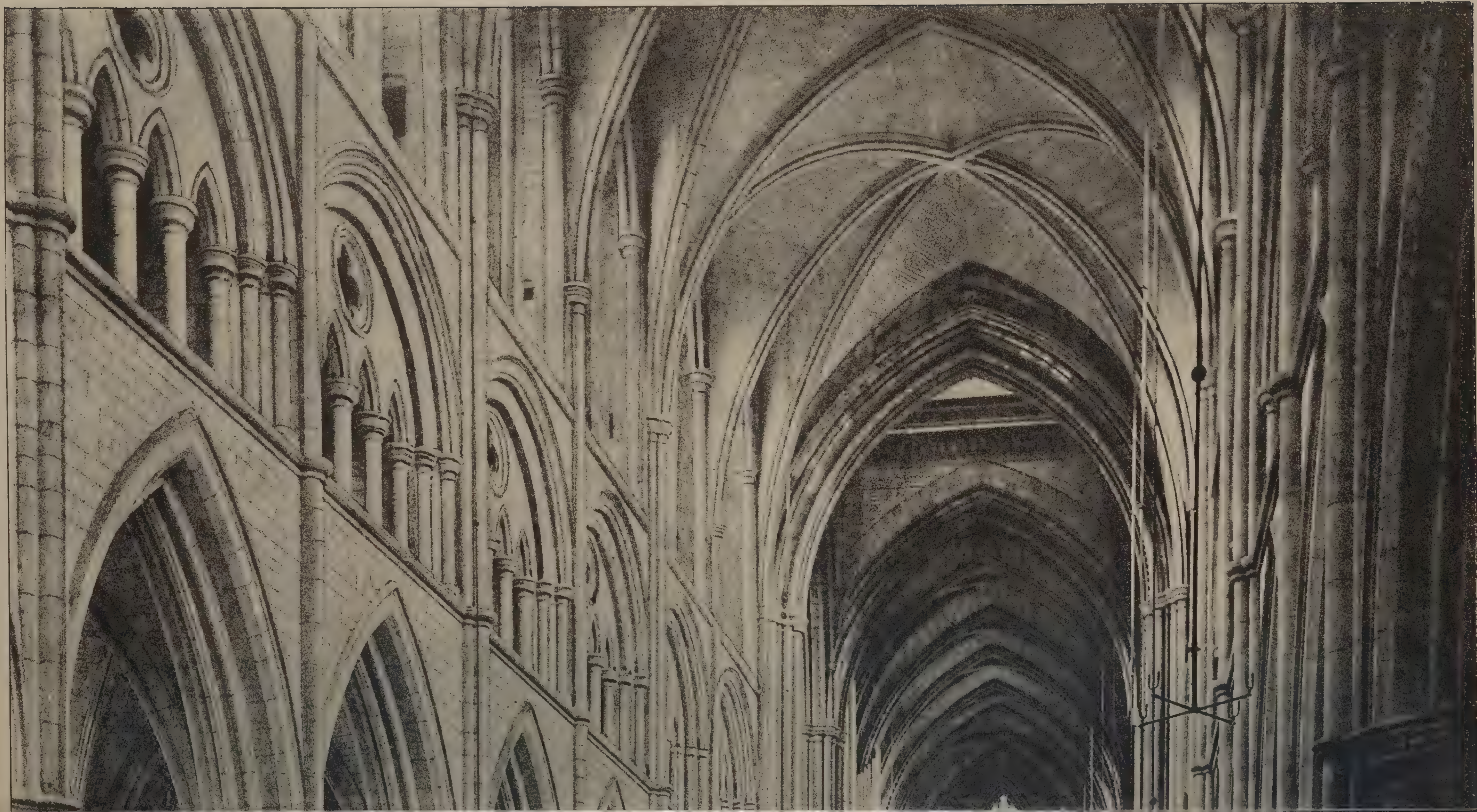

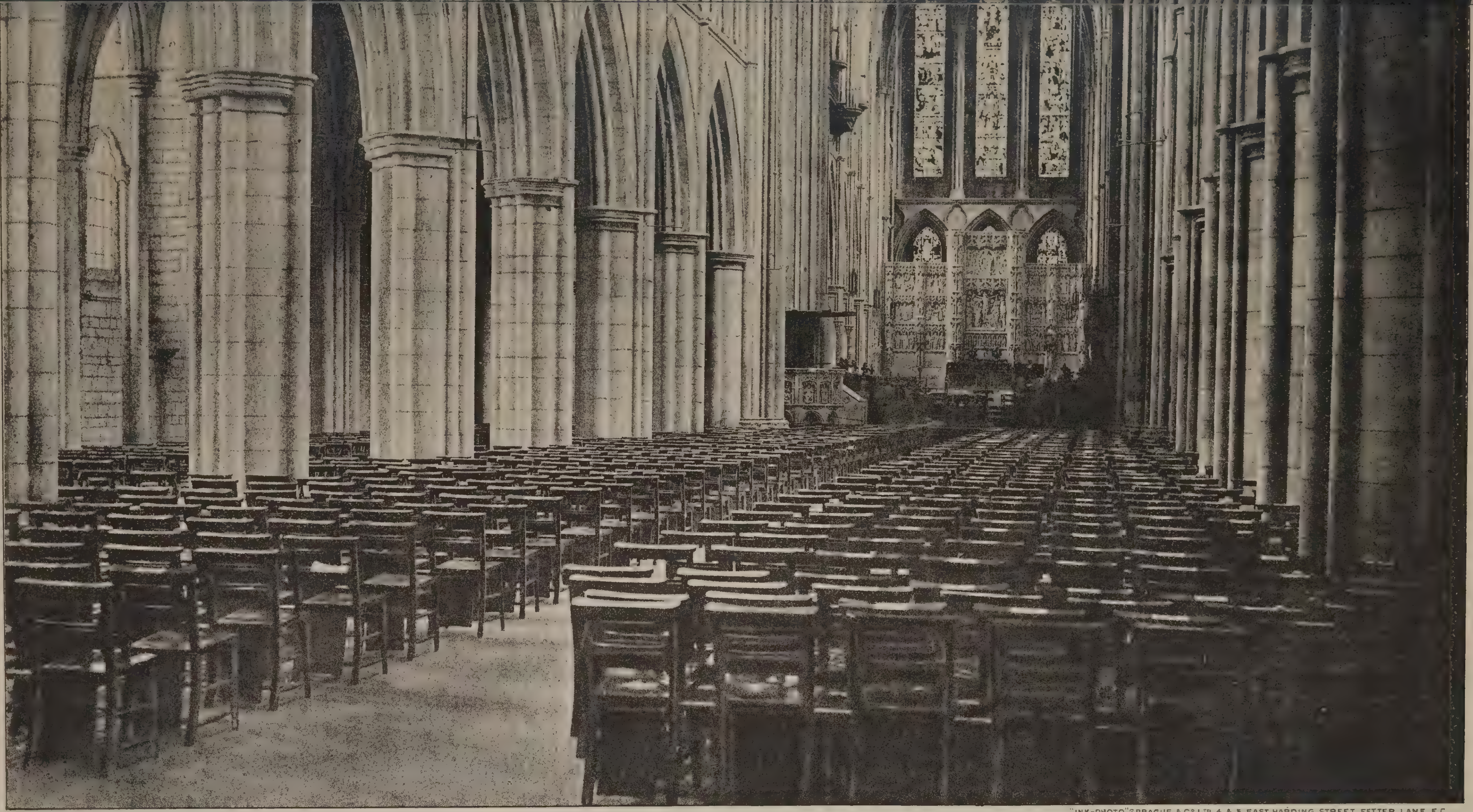

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Cathedral Series, No. 563.—Truro: Full Length View, looking East.

The late J. L. PEARSON, R.A., Architect.

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